Environmental Assessment

Plaquemines Parish
Venice Boat Harbor Dredge and Beneficial Use of Dredge Material for Marsh Creation

FEMA-1603-DR-LA

Plaquemines Parish, Louisiana
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FEMA

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region VI
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LIST OF ACRONYMS AND ABBREVIATIONS

ABFE	Advisory Base Flood Elevation
ACHP	Advisory Council on Historical Preservation
APE	Area of Potential Effects
AST	above ground storage tank
BFE	Base Flood Elevation
BMP	Best Management Practices
CAA	Clean Air Act
CAP	Corrective Action Plan
CBD	Central Business District
CBRA	Coastal Barrier Resources Act
CBRS	Coastal Barrier Resources System
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
C.F.R.	Code of Federal Regulations
CNO	City of New Orleans
COC	constituent of concern
CTR	In-House Contract Consultant
CUP	Coastal Use Permit
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dBA	decibel, on the A-weighted scale
DEA	Draft Environmental Assessment
DFIRM	Digital Flood Insurance Rate Map
DHS	U.S. Deartment of Homeland Security
DNL	Day-Night Average Sound Level
DoA	U.S. Department of the Army
EA	Environmental Assessment
EDMS	Electronic Document Management System
EIS	Environmental Impact Statement
EL	Elevation
EMD	Equipment Maintenance Division
E.O.	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GHG	Greenhouse Gas
GPO	U.S. Government Printing Office
HEAG	Highest Existing Adjacent Grade
HSDRRS	Hurricane Storm Damage Risk Reduction System
HUD	U.S. Department of Housing and Urban Development
IER	Individual Environmental Report
LA GOHSEP	Louisiana Governor's Office of Homeland Security and Emergency Preparedness

LaDOTD	Louisiana Department of Transportation and Development
LCRP	Louisiana Coastal Resources Plan
LDEQ	Louisiana Department of Environmental Quality
LDNR	Louisiana Department of Natural Resources
LPDES	Louisiana Pollutant Discharge Elimination System
LPV	Lake Pontchartrain and Vicinity
MMG	Materials Management Group, Inc.
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NLAA	Not Likely to Adversely Affect
NMFS	National Marine Fisheries Service
NOPD	New Orleans Police Department
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OCM	Office of Coastal Management
OSHA	Occupational Safety and Health Administration
PA	Public Assistance
PAH	polycyclic aromatic hydrocarbon
PCB	Polychlorinated Biphenyl
P.L.	Public Law
RCRA	Resource Conservation and Recovery Act
RECAP	Risk Evaluation / Corrective Action Plan
RHA	Rivers and Harbors Act
SARA	Superfund Amendments and Reauthorization Act
sf	square-foot, square feet
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office/Officer
SIP	State Implementation Plan
SOV	Solicitation of Views
SPA	Statewide Programmatic Agreement
TSCA	Toxic Substances Control Act
USACE	U.S. Army Corps of Engineers
U.S.C.	U.S. Code
USDOC	U.S. Department of Commerce
USDOI	U.S. Department of the Interior
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
VRP	Voluntary Remediation Program

1 INTRODUCTION

1.1 Hurricane Katrina

Hurricane Katrina made landfall on 29 August 2005, near the town of Buras, Louisiana, with sustained winds of more than 125 miles per hour. The accompanying storm surge entered Plaquemines Parish from various coastal waterways, resulting in flooding throughout much of the parish. The storm's high winds, heavy rains, and flooding caused considerable damage to the Venice Boat Harbor infrastructure and deposited sediment and debris resulting in diminished functioning.

1.2 Project Authority

President George W. Bush declared a major disaster for the State of Louisiana (FEMA-1603-DR-LA) on 29 August 2005, authorizing the U.S. Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA) to provide federal assistance in designated areas of Louisiana. This assistance is pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Public Law (P.L.) 93-288, as amended. Section 406 of the Stafford Act authorizes FEMA's Public Assistance (PA) Program to assist with funding the repair, restoration, reconstruction, or replacement of public facilities damaged as a result of the declared disaster.

This Draft Environmental Assessment (DEA) has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA), the President's Council on Environmental Quality (CEQ) regulations implementing NEPA (Title 40 of the Code of Federal Regulations [C.F.R.] §§ 1500-1508) (Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act 2005), and FEMA's Instruction 108-1-1..

The purpose of this DEA is to analyze potential environmental impacts of the proposed project. FEMA will use the findings in this DEA to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

1.3 Background

Plaquemines Parish has requested, through the State of Louisiana Governor's Office of Homeland Security and Emergency Preparedness (LA GOHSEP), that FEMA provide disaster assistance consisting of federal grant funds in accordance with the provisions of the Stafford Act to repair the Venice Boat Harbor. FEMA has determined that Plaquemines Parish is eligible for federal disaster public assistance and that the Venice Boat Harbor facility qualifies for repairs as a facility serving the needs of the general public.

1.4 General Area Description

Plaquemines Parish is located in southeastern Louisiana, southeast of the City of New Orleans (Figure 1). The largest and southernmost parish in Louisiana, Plaquemines Parish is a peninsula that extends some 90 miles south of New Orleans, and is bisected by the Mississippi River. Despite the size, very little of the parish is dry land (5 percent); with most of it being water or low-lying marsh wetland (Plaquemines Parish Master Plan, 2011). Although not developable by conventional standards, the wetlands and water areas of the parish are arguably the most used and productive areas of the parish (USDA 2015). The parish lies along both banks of the Mississippi River from Orleans Parish in the north to the Gulf of Mexico, it's southern boundary. Plaquemines Parish is also bordered by Jefferson Parish to the west and St. Bernard Parish to the east. The total land area of the parish is approximately 1,986 square miles.

The economy of the area is predominantly agricultural and industrial. The principal crops consist of oranges and tomatoes. Plaquemines Parish has a significant seafood industry exporting millions of pounds of shrimp, oysters, and crabs, annually (USDA 2015). Other industries are related to offshore oil exploration

and production as well as port facilities afforded by the Mississippi River. The Port of Plaquemines is one of the largest seaports in the United States. State Routes 23 and 39 are the major arteries paralleling the Mississippi River on the west and east banks, respectively. Many other state and parish roads supplement land transportation within the parish. Railroad service is provided on the west bank by the New Orleans and Lower Coast Railroad. Many streams and bays (both natural and man-made) traverse Plaquemines Parish; many of these are navigable. The Mississippi River is the major waterway in the parish and much of the economy and culture of the area is derived from it.

The climate of the area is subtropical and is strongly influenced by the Gulf of Mexico. Extreme temperatures are seldom experienced and the average temperatures range from 83 degrees Fahrenheit (° F) in the summer to 56° F in winter. The average annual precipitation is approximately 60 inches. The heaviest rainfall occurs between June and September and the least during the December-January period.

Figure 1 – Venice Boat Harbor, Project Vicinity (The National Map 2015, Project Located at the Orange Dot)

The proposed project area is located in Venice, Louisiana in southern-most Plaquemines Parish within a part of the active delta of the Mississippi River, in a dynamic area dependent upon the disbursement and settlement of river sediments to maintain land elevations above water. The Mississippi River splits into three main channels within the delta region south of the project site: Pass a Loutre, South Pass, and Southwest Pass. Land elevations range from sea level along the Gulf coast, to approximately +10 feet above sea level along the natural levee ridges.

It is a sparsely populated region characterized by river channels with attendant channel banks, natural bayous, and man-made canals interspersed with intermediate and fresh marshes. Water levels fluctuate within the river, passes, estuarine bays, and marshes according to river flow from upstream, tide, and wind influences. Prominent nearby landuse includes the Pass a Loutre Wildlife Management Area (WMA), the Delta National Wildlife Refuge (NWR), and Pilottown, a small unincorporated community that serves as a base for river pilots to guide ships up and down the Mississippi River. The property adjacent to the Venice Boat Harbor includes fresh and intermediate marshes, scrub-shrub wetlands, canals leading to the main navigation channel of the Mississippi River and West Bay, private camps, marine commercial, and petroleum industry facilities.

The Venice Boat Harbor, located on Tidewater Access Canal, off of Tiger Pass, at 237 Sports Marina Rd. (lat/long) has approximate dimensions of 1,945 feet by 969 feet with an overall area of 44 acres. The harbor area has three main areas, 1) the East Road Side comprised of commercial and private boats and boat slips, 2) the West Road side comprised of mostly private boats, houses, camps, boat slips, and the boat launch, and 3) the center open water section. Current depths on the East and West side range from 7 to 11 feet and average 13 feet in the center section (*Figure 2*).

Figure 2 – Venice Boat Harbor and Marsh Creation Area (Google Earth 2018)

2 PURPOSE AND NEED

The objective of FEMA's PA Grant Program is to provide assistance to state, tribal, and local governments, as well as certain types of private, non-profit organizations, such that communities can quickly respond to, recover from, and mitigate major disasters and emergencies. The massive flooding associated with Hurricane Katrina severely impaired the operation of the Venice Boat Harbor. All of the on-site structures were flooded and the harbor was fouled with sediment and debris.

The Venice Boat Harbor is needed to provide a base for marine operations, ensure safe refuge of vessels, and maintain docking facilities for commercial and private boats operating around Southwest Pass of the Mississippi River. The Southwest Pass is the principal shipping channel between the Gulf of Mexico and the Head of Passes, where Southwest Pass and two other distributary channels, South Pass and Pass a Loutre, split from the main stem of the Mississippi River. Vessels entering into and travelling out of the harbor have a draft up to 11 feet deep. Engineers have determined that a 15% safety factor should be incorporated into the design depth for the harbor to provide unhindered continuous harbor operations. Surveys conducted of the Venice Boat Harbor indicate the dredging of approximately two feet of sediment would be required to return the harbor to predisaster condition and ensure normal operation of the vessels.

The public makes high demands on recreational areas in the vicinity of Venice Boat Harbor. Activities such as fishing, birding, and hunting are supported by the harbor facilities. There is a high value that the public places on these recreational activities as evidenced by the large number of fishing and hunting licenses sold in Louisiana. Harbor-related activities contribute substantially to the local economy. Restoration of the harbor is needed to support the economic well-being and overall long term recovery of the region.

The project would enable Plaquemines Parish to cost-effectively improve its utilization of Venice Boat Harbor dredge material and would contribute to maximizing its use for effective and sustainable habitat restoration. Creation of marsh within the surrounding open water areas would provide valuable and diverse habitat for foraging, refugia, nesting, and loafing of terrestrial wildlife, migratory waterfowl, and other avian species.

3 ALTERNATIVES

NEPA requires Federal agencies to consider the effects of a proposed action and any reasonable alternatives on the human and natural environment. Therefore, a key step in the environmental assessment process is to identify a range of reasonable alternatives to be studied in detail in the EA. This step is commonly referred to as an alternatives development and screening process. Its purpose is to identify reasonable alternatives to the proposed action to allow for meaningful subsequent comparison of how these alternatives may affect the human and natural environment. This section describes alternatives proposed and considered in addressing the purpose and need.

Three alternatives have been proposed and reviewed including 1) the "No Action" alternative, 2) Dredge the Harbor and Dispose of Dredge Material in Open Waters, and 3) Dredge the Harbor and Use the Dredge Material for Marsh Creation (Proposed Action).

3.1 Alternative 1 – No Action

Under the "No Action" alternative, there would be no dredging to restore the full function of the Venice Boat Harbor. Consequently, the facility would continue to operate under current conditions. "No Action" would leave the harbor and their environs in a potentially unsafe condition, representing a potential hazard to navigation and other harbor activities. The damaged facilities would remain inadequate to accommodate the needs of Plaquemines Parish harbor users.

3.2 Alternative 2 – Dredge the Harbor and Dispose of the Material in Open Water

An alternative was considered to maintenance dredge the Venice Boat Harbor and transport the dredged material to an unidentified open-ocean location for disposal. A hydrographic survey of the harbor has been completed that details the existing water depths. Preliminary design and permitting activities have commenced and cross sections of proposed dredging contours have been prepared that would return the harbor to its original project depth of -10 feet mean sea level (msl). The areas to be dredged have been determined (*Figure 3*) and the average depth of sediment proposed to be removed is two feet. According to Plaquemines Parish, approximately 150,000 cubic yards of material would require removal to return the harbor to its predisaster condition.

In order to accommodate the transportation of dredged material to another offshore location, either mechanical removal of the sediment using construction equipment (a dragline, for example) or use of a ship called a hopper dredge, which employs hydraulic suction to remove the material, would be required. Both of these methods facilitate the transportation of the removed sediment. A hopper dredge retains the dredged material internally and then transports it directly to the disposal site, while a mechanical excavator places the material in a hopper barge or scow, which is then taken to the disposal area by a tug. The capacity of hopper dredges averages about 4,000 cubic yards; however, due to the restricted size of the harbor and entrance channel, only a very small dredge with less than 1,000 cubic yard capacity could be employed. A barge/scow small enough to be used within the harbor would, likewise, have a capacity below 1,000 cubic yards. One advantage to the open water dumping approach is avoiding damage to important inshore habitats through their burial with a large quantity of dredged material, since no suitable upland disposal sites are available in the area. The main disadvantage is the cost of transportation to an offshore location.

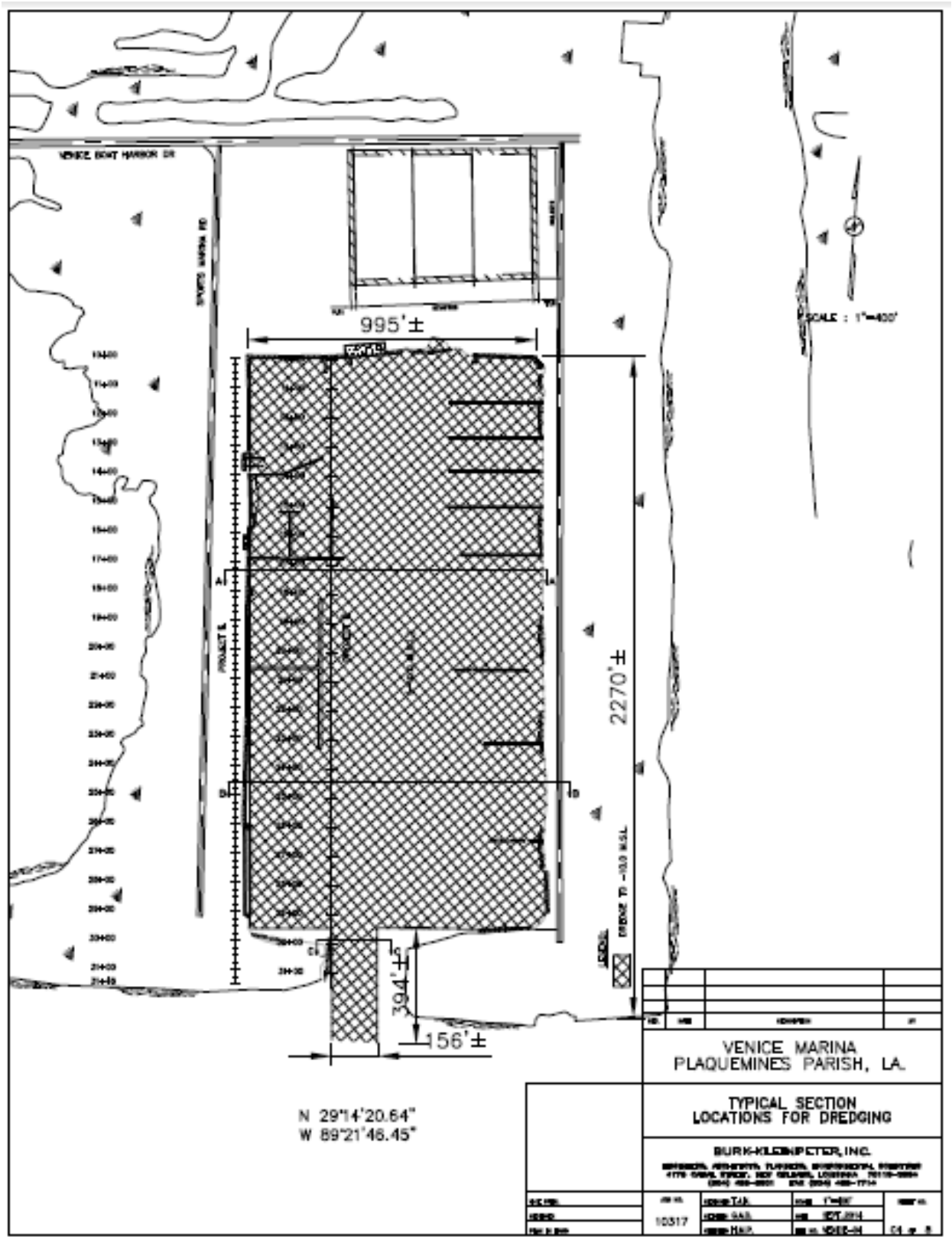

Figure 3 – Locations for Dredging

3.3 Alternative 3 – Dredge the Harbor and Use the Dredge Material for Marsh Creation (Proposed Action)

Using the same processes and quantities described in Section 3.3, Plaquemines Parish proposes to maintenance dredge the Venice Boat Harbor. Sediment would be removed through the use of a hydraulic dredge, which maintains the dredged material in a slurry which can be pumped through a temporary pipe to a nearby location on the site and then discharged. Under this alternative, the parish would use the dredged material to create an emergent wetland (marsh), by discharging the slurried sediment within an unvegetated area of shallow open water near the harbor.

As proposed, the marsh creation site encompasses approximately 41 acres of shallow open water located adjacent to the west side of Venice Boat Harbor (*Figure 4*). Material removed during dredging of the harbor would be discharged in such a manner that, after settling, an ideal final elevation of +2.5 feet msl would be achieved, which would be conducive to high-quality marsh development. During dredging operations, the end of the dredge discharge pipe would be moved periodically to ensure that excess material is not deposited at one location, since heavier particles will settle rapidly near the mouth of the pipe. The goal of beneficial use is to create an elevation conducive to vegetated wetland, not upland, formation. As an additional safeguard, a silt fence adequate to prevent escape of fine paricles would be placed along the western margin of the disposal site in order to prevent material escaping into surrounding open water areas. When dredging near the mouth of the boat basin, a silt screen or another method for trapping sediment also would be required to prevent shoaling of the adjacent Pass Tante Phine (Tidewater Access Canal). During the discharge process, care would be taken to avoid impacts to existing vegetated wetlands or shallows. Once the dredged material has been deposited, natural revegetation of the newly created soil surface would be expected to occur. During the course of the dredging operation, since the disposal area would not be confined by levees, a silt fence adequate to prevent the escape of fine paricles would be placed along the western margin of the disposal site in order to prevent material escaping into surrounding open water areas.

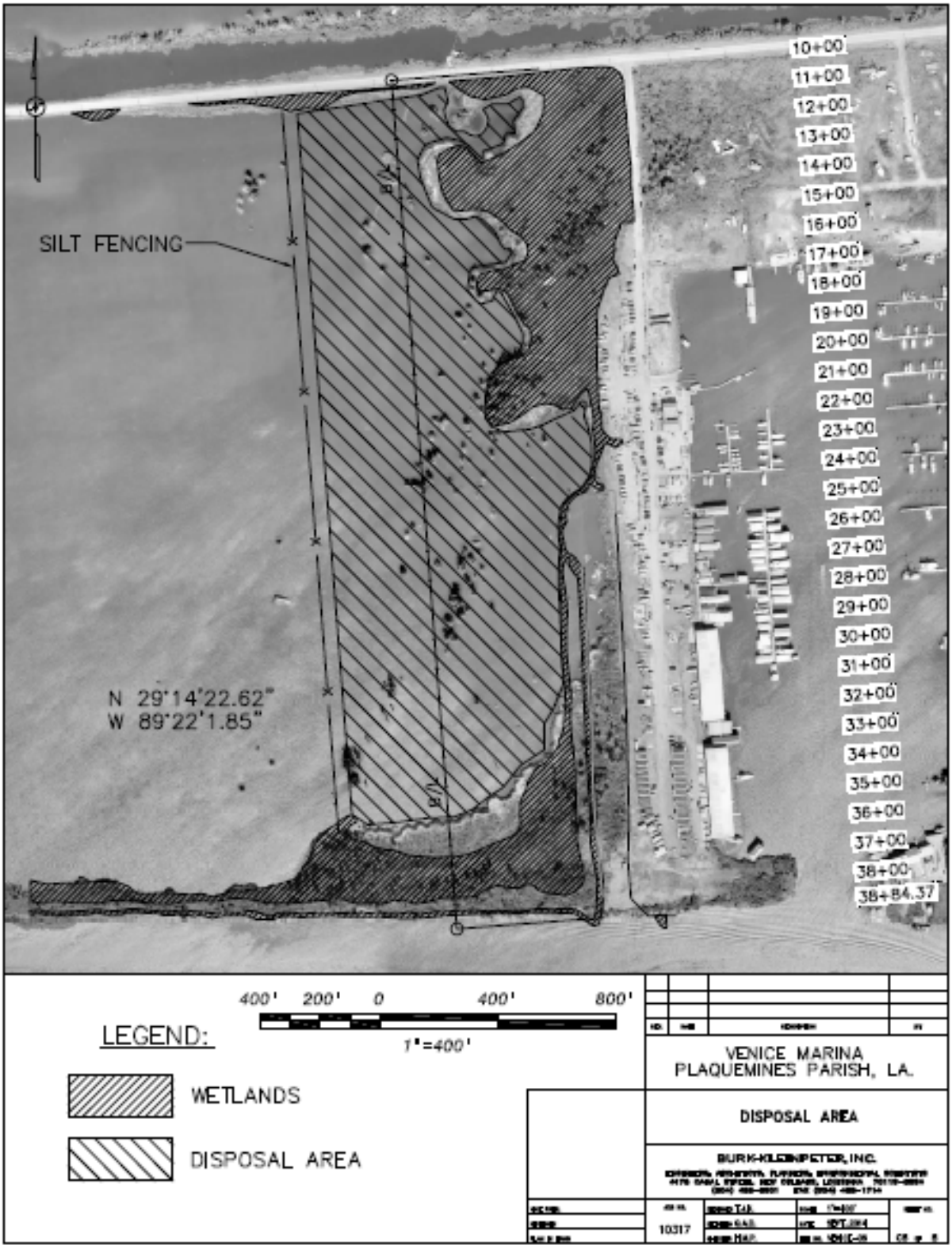

Figure 4 – Proposed Marsh Creation Plan

4 AFFECTED ENVIRONMENT AND ALTERNATIVES ANALYSIS

4.1 Geology, Soils, and Topography

4.1.1 Regulatory Setting

The Farmland Protection Policy Act (FPPA, P.L. 97-98, §§ 1539-1549; 7 U.S.C. 4201, et seq.) was enacted in 1981 and is intended to minimize the impact federal actions have on the unnecessary and irreversible conversion of farmland to non-agricultural uses. This law assures that, to the extent possible, federal programs and policies are administered in a way that is compatible with state and local farmland protection policies and programs. In order to implement the FPPA, federal agencies are required to develop and review their policies and procedures every two (2) years. The FPPA does not authorize the federal government to regulate the use of private or non-federal land or, in any way, affect the property rights of owners.

The Natural Resources Conservation Service (NRCS) is responsible for protecting significant agricultural lands from irreversible conversions that result in the loss of essential food or environmental resources. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and farmland of statewide or local importance. Prime farmland is characterized as land with the best physical and chemical characteristics for production of food, feed, forage, fiber, and oilseed crops (USDA 2013). Farmland subject to FPPA requirements does not currently have to be used for cropland; it also can be forest land, pastureland, or other land, but not water or built-up land.

4.1.2 Existing Conditions

Four main physiographic surfaces exist within Plaquemines Parish: natural levees, back swamps, coastal marshes, and barrier islands. The Mississippi River Delta complex was formed by river deposits between 700 and 7,400 years ago. The NRCS classifies soils within the proposed project area as typically peat, mucks, and clays mixed with organic matter, and silts derived from river deposits. The soil composition is subject to change as floodwaters and storm surges deposit new sediments. They are composed predominantly by Balize and Larose soil types. These soils are classified as continuously flooded deep, poorly drained and permeable mineral clays and mucky clays. Marsh and swamp deposits are found in the vicinity of the river from New Orleans to the Head of Passes at the Gulf of Mexico in the vicinity of the site. Marsh deposits are primarily organic, consisting of 60 percent or more by volume of peat and other organic material with the remainder being a composition of various types of clays. Total organic thickness is normally 10 feet, with variances less than one foot. Inland swamp deposits are composed of approximately 70 percent clay and 30 percent peat and organic materials. The percentage of sand and sandy silts increases with proximity to the open waters of the Gulf of Mexico.

The existing areas adjacent to the proposed disposal site that are not mapped as open water also consist of Balize and Larose soils (USDA 2015). According to the National Hydric Soils List (USDA 2014), these soils are considered to be hydric due to soil taxonomy, field indicators, flooding, or ponding. A hydric soil is a soilformed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Changes in Hydric Soils Database Selection Criteria 2012). These soils are typically found in wetlands unless the hydrologic regime has been altered.

4.1.3 Environmental Consequences

<u>Alternative 1 – No Action</u>

The "No Action" alternative would have no significant impacts on prime farmland, unique farmland, farmland of statewide or local importance, or other important geologic resources.

<u>Alternative 2 – Dredge the Harbor and Dispose of Dredge Material in Open Waters</u>

Site soils in upland areas of the site, the the Balize Larose soils, are not prime farmland, therefore, this alternative would have no significant impacts on prime farmland, unique farmland, farmland of statewide or local importance, or other important geologic resources. Impacts to geology and soil resources from maintenance dredging activities are typically of three (3) types: direct removal of benthic (i.e., bottom-dwelling) species, short-term increases in suspended sediments, and settling of these sediments in adjacent locations.

Suspended sediments cause turbidity and, potentially, reduced water quality. In addition, in areas where there is commercial activity, chemical pollutants bound to soil particles can be released into the water column during dredging. Finally, as suspended soil particles begin to settle, they can migrate into other areas, potentially causing previously unaffected sites also to require dredging. When dredging near the mouth of the boat basin, a silt screen or another method for trapping sediment would be required to prevent shoaling of the adjacent Pass Tante Phine (Tidewater Access Canal).

With respect to the ocean disposal of dredged material, the same issues raised for the dredging operation are relevant. In addition, depending on the nature of the vessel depositing the material and the depth of the water, when the vessel's bottom doors are opened, a large sediment plume can form. Generally speaking, heavier materials (such as clay balls and sand) tend to quickly settle to the bottom, while the finer particles settle more slowly and cause either a zone of turbidity in the water column or a mound of viscous, fluid-like mud, which spreads out over the bottom (USEPA and DoA 2004). Whatever geologic features or benthic organisms present will be covered by the released material, to a greater or lesser degree. In general, economic concerns (e.g., time-of-transit to disposal sites versus time spent actually dredging) often make ocean dumping of dredged material a less desirable alternative.

Alternative 3 – Dredge the Harbor and y Use Dredge Material for Marsh Creation (Proposed Action)

Under this alternative, impacts from maintenance dredging would be similar to those described for Alternative 2; however, the method for conducting the dredging would be different. Site soils in upland areas of the site, the the Balize Larose soils, are not prime farmland, therefore, this alternative would have no significant impacts on prime farmland, unique farmland, farmland of statewide or local importance, or other important geologic resources.

The proposal to hydraulically dredge the basin and use the dredged material for marsh creation would result in impacts to a currently open water area west of the basin.

At the present time, the elevation of the area to be filled ranges from -1 to 0 feet msl. The planned elevation once settling occurs is 2.5 feet msl. In a nearby marsh creation project proposed for West Bay by the U.S. Army Corps of Engineers (USACE), USACE calculated that hydraulically dredged material placed at an initial elevation of 3.0 to 3.5 feet North American Vertical Datum of 1988 (NAVD88) would ultimately settle to a height of 1.5 to 2.0 feet, or a loss of about 1.5 feet (DoA 2014). At this nearby location, an elevation of 2.0 feet NAVD88 is approximately equivalent to 1.3 feet msl (USDOC 2015). Conversely, the proposed final elevation of 2.5 feet msl at the currently proposed disposal site is equivalent to 3.2 feet NAVD88. This planned elevation would be at the upper limit of the high marsh zone, thus requiring careful attention to material placement in order to avoid creating an elevation higher than would support wetland vegetation.

Material removed during dredging of the harbor would be discharged in such a manner that, after settling, an ideal final elevation of +2.5 feet msl would be achieved, which would be conducive to high-quality marsh development. During dredging operations, the end of the dredge discharge pipe would be moved periodically to ensure that excess material is not deposited at one location, since heavier particles will settle rapidly near the mouth of the pipe. The goal of beneficial use is to create an elevation conducive to vegetated wetland, not upland, formation. As an additional safeguard, a silt fence adequate to prevent escape of fine paricles would be placed along the western margin of the disposal site in order to prevent

material escaping into surrounding open water areas. When dredging near the mouth of the boat basin, a silt screen or another method for trapping sediment also would be required to prevent shoaling of the adjacent Pass Tante Phine (Tidewater Access Canal). During the discharge process, care would be taken to avoid impacts to existing vegetated wetlands or shallows. Once the dredged material has been deposited, natural revegetation of the newly created soil surface would be expected to occur.

4.2 Wetlands and Waters of the United States

4.2.1 Regulatory Setting

4.2.1.1 § 401 of the Clean Water Act

Section 401 of the Clean Water Act (CWA) requires state certification of all federal licenses and permits in which there is a "discharge of fill material into navigable waters." The certification process is used to determine whether an activity, as described in the federal license or permit, would impact established site-specific water quality standards. A water quality certification from the issuing state, LDEQ in this case, is required prior to the issuance of the relevant federal license or permit. The most common federal license or permit requiring certification is the U.S. Army Corps of Engineers (USACE) CWA § 404 permit.

4.2.1.2 § 402 of the Clean Water Act

The National Pollutant Discharge Elimination System (NPDES) program was created by § 402 of the CWA. This program authorizes the U.S. Environmental Protection Agency (USEPA) to issue permits for the point source discharge of pollutants into waters of the United States. Through a 2004 Memorandum of Agreement, the USEPA delegated its permit program for the state of Louisiana to LDEQ. The ensuing Louisiana Pollutant Discharge Elimination System (LPDES) program authorizes individual permits, general permits, stormwater permits, and pretreatment activities that result in discharges to jurisdictional waters of the state. The LDEQ issued a LPDES Permit (LAG480873) for the site, which may be found at: http://edms.deq.louisiana.gov/app/doc/view.aspx?doc=10131711&ob=yes&child=yes

4.2.1.3 § 404 of the Clean Water Act

As defined in 33 C.F.R. § 328.3,

> (a) The term *waters of the United States* means
>
> (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
>
> (2) All interstate waters including interstate wetlands;
>
> (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
>
> (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
>
> (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
>
> (ii) Which are used or could be used for industrial purpose by industries in interstate commerce;
>
> (4) All impoundments of waters otherwise defined as waters of the United States under the definition;

(5) Tributaries of waters identified in paragraphs (a) (1) through (4) of this section;

(6) The territorial seas;

(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1) through (6) of this section.

Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 C.F.R. § 328.3[b]) (Regulatory Programs of the Corps of Engineers 1986). The USACE, through its permit program, regulates the discharge of dredged or fill material into waters of the U.S., including wetlands, pursuant to § 404 of the CWA. In addition, the USEPA has regulatory oversight of the USACE permit program, allowing the agency under § 404c to veto USACE–issued permits where there are unacceptable environmental impacts.

4.2.1.4 § 10 of the Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act of 1899 (RHA) regulates structures or work in or affecting navigable waters. Navigable waters under this statute are defined as "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce" (33 C.F.R. § 329.4) (Regulatory Programs of the Corps of Engineers 1986). The USACE implements a permit program to evaluate impacts to navigable waters and their navigable capacity under § 10 (jointly with § 404 of the CWA when a discharge of fill material is also involved). Regulated structures include such objects as buoys, piers, docks, bulkheads, and jetties, while work includes dredging or filling activities.

4.2.1.5 § 103 of the Marine Protection, Research, and Sanctuaries Act of 1972

Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972, as amended, regulates the transportation of dredged material by vessel or other vehicle for the purpose of dumping it into ocean waters at designated dumping sites. "Ocean waters" under this statute "means those waters of the open seas lying seaward of the base line from which the territorial sea is measured, as provided for in the Convention on the Territorial Sea and the Contiguous Zone" (33 C.F.R. § 324) (Regulatory Programs of the Corps of Engineers 1986). Permits for the transportation are required under § 103, while permits for dredging in navigable waters are required under § 10 of the RHA. Section 103 permits, after notice and opprtunity for public hearings, may be issued when the dumping will not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological system, or economic potentialities.

4.2.1.6 Executive Order 11990 – Protection of Wetlands

Executive Order (E.O.) 11990, Protection of Wetlands, directs federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the values of wetlands for federally funded projects (U.S. President 1977b). FEMA regulations for complying with E.O. 11990 are found at 44 C.F.R. § 9, Floodplain Management and Protection of Wetlands (1980).

4.2.2 Existing Conditions

The dominant hydrologic regime of Plaquemines Parish results from the interaction of the Mississippi River's discharge with regional precipitation, winds, and tides, which combine to influence the movement of freshwater and saltwater masses through the region. Under past, unaltered conditions, the Mississippi River flowed down its gradual natural slope toward the Gulf of Mexico, fanning out through the coastal swamps and marshes both as sheet flow and as interdistributary basin channel flow. As the vegetation slowed the progress of this drainage, the fresh river water was stored for gradual release into its more saline,

tidally influenced surroundings. Consequently, a relatively stable water regime was created, with water levels and salinity values fluctuating gradually with changing tidal conditions (Templett 1982).

During historic times, however, human-induced changes have greatly affected the natural hydrology of the parish. Levees along the Mississippi River now prevent the annual overbank flooding that previously occurred. Water from precipitation is instead discharged into the wetlands that remain via pumping stations and floodgates which are part of the channelized drainage network within the leveed areas (Trahan 2000). Elsewhere in the parish, deep canals have been excavated for logging, drainage, improved navigation and, in later years, oil and gas development. These and other similar modifications to the local landscape allowed freshwater to enter the estuary more quickly from point sources. The sidecast excavated material along the canals caused segmentation of the wetlands and interfered with natural circulation. The deeper water within the canals allowed tidal fluctuation to extend farther inland, increasing saltwater intrusion during drier periods. Because of these human-created conditions, hydrologic circulation now reflects an unnatural competition between local runoff, discharges from diked areas, and daily tides. As a result, a stable hydrologic regime has been altered relatively rapidly into one with greater fluctuations in water levels and salinity values (Templett 1982).

Wetlands along Louisiana's coast may be described in a number of ways and in accordance with several different classification schemes. Regionally, one system in common use was co-developed by the U.S. Geological Survey and several state agencies (Sasser et al. 2013). This system places Louisiana coastal wetlands in one of five categories: fresh marsh, intermediate marsh, brackish marsh, saline marsh, or swamp. The first four classes are emergent wetlands grouped together based on salinity regime, starting from fresh and ranging to completely saline, respectively. The "swamp" category is dominated by woody vegetation.

A site inspection of the subject property was performed on 8 May 2015. Wetlands were examined on the west side of the existing canal, which is located to the west of the boat basin. Within these wetlands adjacent to the proposed open water disposal area, the vegetation was dominated by common reed (*Phragmites australis*), broad-leaf cattail (*Typha latifolia*), and black willow (*Salix nigra*), with lesser amounts of groundseltree (*Baccharis halimifolia*), southern amaranth (*Amaranthus australis*), and coast cockspur grass (*Echinchloa walteri*). This area would be categorized as an intermediate marsh according to the classification system described above, although its relatively high elevation places it at the upper limit of the wetland zone (high marsh). Within the proposed disposal site itself, the area appeared to be unvegetated, with the exception of scattered bald cypress (*Taxodium distichum*) trees.

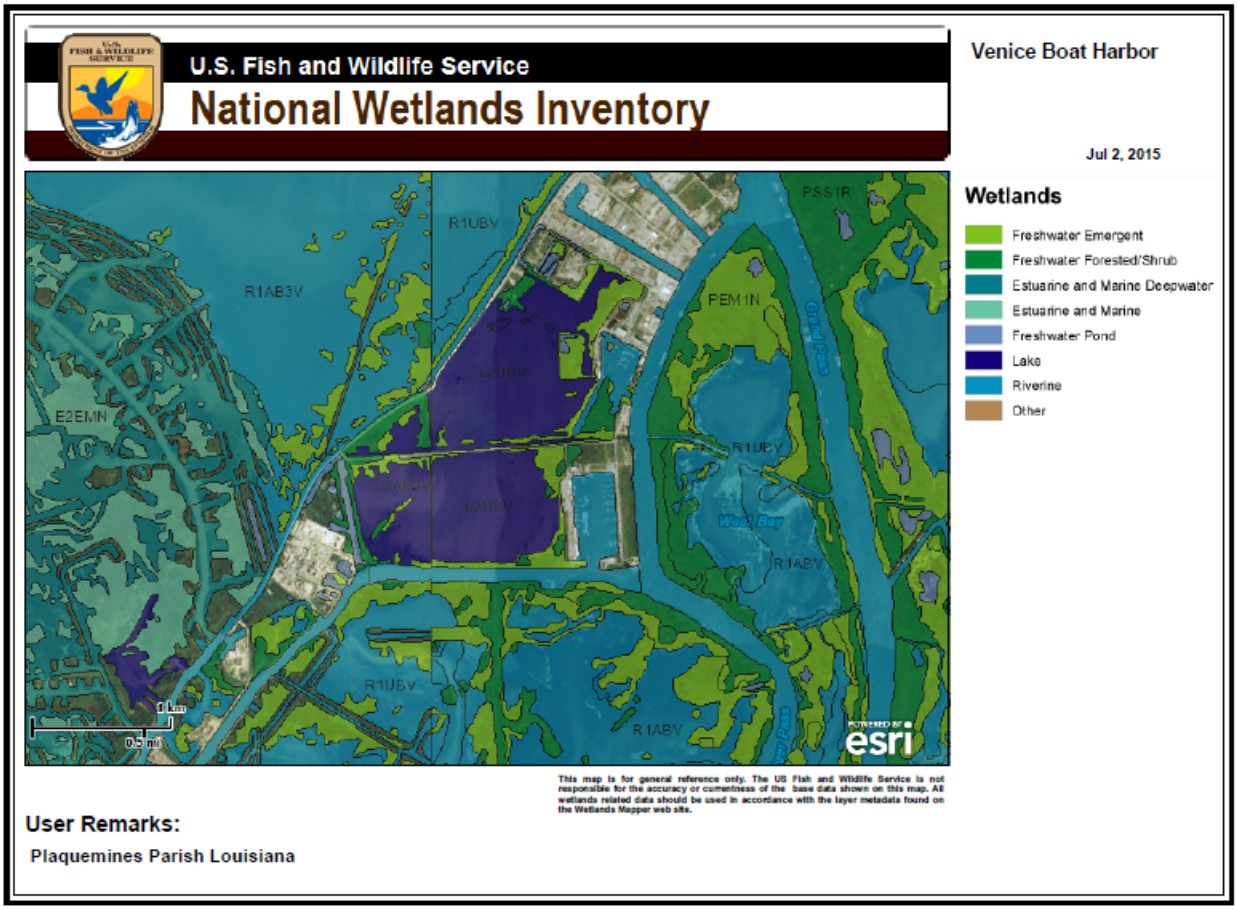

Figure 5 – U. S. Fish and Wildlife Service (USFWS) National Wetlands Inventory Map (USDOI 2018)

4.2.3 Environmental Consequences

Alternative 1 – No Action

The "No Action" alternative would have no impact on wetlands or other waters of the U.S. and would not require permits under § 404 of the CWA or § 10 of the RHA.

Alternative 2 – Dredge the Harbor and Dispose of Dredge Material in Open Waters

The removal of sub-aquatic sediment through maintenance dredging, regardless of the means employed, affects the quality of the water in a number of ways. An increase in turbidity has the potential to affect fish and other motile organisms; however, these species are generally not affected since they are able to escape by leaving the area. Within closed basins with minimal circulation, the suspension of bottom sediments during dredging operations also can bring undecomposed organic matter to the surface, potentially affecting water quality through reduced dissolved oxygen levels. Although a possibility exists that pollutants could be stirred up by the dredging, the basin and surroundings have little intensive commercial activity or potential for industrial contamination.

Any dredging within navigable waters requires a permit from the USACE under § 10 of the RHA. A water quality certification from LDEQ under § 401 of the CWA may also be required. Finally, the transportation of dredged material for the purpose of ocean dumping, depending on the exact location of the disposal site, would potentially require a permit from the USACE under § 103 of the Marine Protection, Research, and Sanctuaries Act of 1972. If the material is to be disposed shoreward of the base line, a § 404 of the CWA permit would be required instead.

Alternative 3 – Dredge the Harbor and Use Dredge Material for Marsh Creation (Proposed Action)

Impacts from maintenance dredging under Alternative 3 would have the same impacts as described under the previous alternative. Unlike Alternative 2, however, impacts to presumed unvegetated shallows will occur. The discharge of hydraulically dredged material within the proposed 41-acre disposal area has the potential beneficial effect of substantially expanding the existing nearby wetland, creating additional emergent habitat, stabilizing the shoreline, and providing a source of organic waste and debris to the aquatic food web. It is anticipated the marsh creation site will naturally vegetate through colonization of species from adjacent vegetated areas, consistent with experience at other spoil deposit areas in the Mississippi River Delta (USEPA/USACE 2004). The maintenance-dredged sediments from the harbor are fine-grained and organic and, therefore, should have sufficient nutrients and moisture retention to facilitate rapid plant establishment and development at the disposal site.

As discussed previously, the final surface elevation proposed for the created marsh is at the upper limit of the high marsh zone. Care must be taken to ensure uplands are not created instead. Prior to the beginning of dredging activities, a survey of the open water area would be made by a qualified biologist in order to determine whether surberged or rooted aquatic vegetation are present. A minimum of four equally-spaced east-west transects would be made in order to ensure the disposal area is adequately sampled.

In its 14 July 2015 response to FEMA's 1 June 2015 Solicitation of Views, the USACE stated that a permit under both § 10 of the RHA and § 404 of the CWA would be required for the proposed project.

4.3 Floodplains

4.3.1 Regulatory Setting

E.O. 11988, Floodplain Management, requires federal agencies to avoid direct or indirect support or development within or affecting the 1% annual chance Special Flood Hazard Area (SFHA) (i.e., the 100-year floodplain) or, for "Critical Actions," within the 0.2% annual chance SFHA (i.e., the 500-year floodplain), whenever there is a practicable alternative (U.S. President 1977a). FEMA's regulations for complying with E.O. 11988 are found at 44 C.F.R. § 9, Floodplain Management and Protection of Wetlands (1980).

4.3.2 Existing Conditions

In July 2005, prior to Hurricane Kathrina, FEMA initiated a series of flood insurance studies for many of Louisiana's coastal parishes as part of the Flood Map Modernization Effort through FEMA's National Flood Insurance Fund. These studies were necessary because the flood hazard and risk information shown on the effective Flood Insurance Rate Maps (FIRMs) was developed during the 1970s. Since that time, the physical terrain had changed considerably, including the significant loss of wetland areas. After Hurricanes Katrina and Rita, FEMA expanded the scope of work to include all of coastal Louisiana. The magnitude of impacts caused by the two (2) hurricanes reinforced the urgency to obtain additional flood recovery data for the coastal zones of Louisiana. More detailed analysis was possible because new data obtained after the hurricanes included information on levees and levee systems, new high-water marks, and new hurricane parameters.

During an initial post-hurricane analysis, FEMA determined that the 100-year or 1% annual chance storm flood elevations on FIRMs for many Louisiana communities, referred to as Base Flood Elevations (BFEs), were too low. FEMA created recovery maps showing the extent and magnitude of the surges from Hurricanes Katrina and Rita, as well as information on other storms over the past 25 years. The 2006 advisory flood data shown on the recovery maps for the Louisiana-declared disaster areas indicated high-water marks surveyed after the storm, flood limits developed from these surveyed points, and Advisory Base Flood Elevations, or ABFEs. These recovery maps and other advisory data were developed to assist parish officials, homeowners, business owners, and other affected citizens with their recovery and rebuilding efforts.

Updated preliminary flood hazard maps from an intensive five-year mapping project guided by FEMA subsequently were provided to all Louisiana coastal parishes. These maps, released in early 2008, known as Preliminary Digital Flood Insurance Rate Maps (DFIRMs), were based on the most technically advanced flood insurance studies ever performed for Louisiana, followed by multiple levels of review. The DFIRMs provided communities with a more scientific approach to economic development, hazard mitigation planning, emergency response, and post-flood recovery.

The 2012 Revised Preliminary FIRMs are currently viewed as the best available flood risk data for Plaquemines Parish. In many areas, the flood risk has been significantly reduced due to heightened protection. No project should be built to a floodplain management standard that is less protective than what the community has adopted in local ordinances through its participation in the National Flood Insurance Program (DHS 2011).

Plaquemines Parish enrolled in the NFIP on May 5, 1985. Per revised Preliminary Flood Insurance Rate Map Panel Numbers 22075C1225E dated 31 August 2016 the site of the proposed work is located in two flood zones, 1) a Coastal High Hazard Special Flood Hazard Area Flood Zone VE, base flood elevation 12 feet above NAVD88 and 2) in a Special Flood Hazard Area Flood Zone AE base flood elevation 12 feet above NAVD88. In compliance with E.O. 11988, an 8-step process is being completed in conjunction with the NEPA DEA.

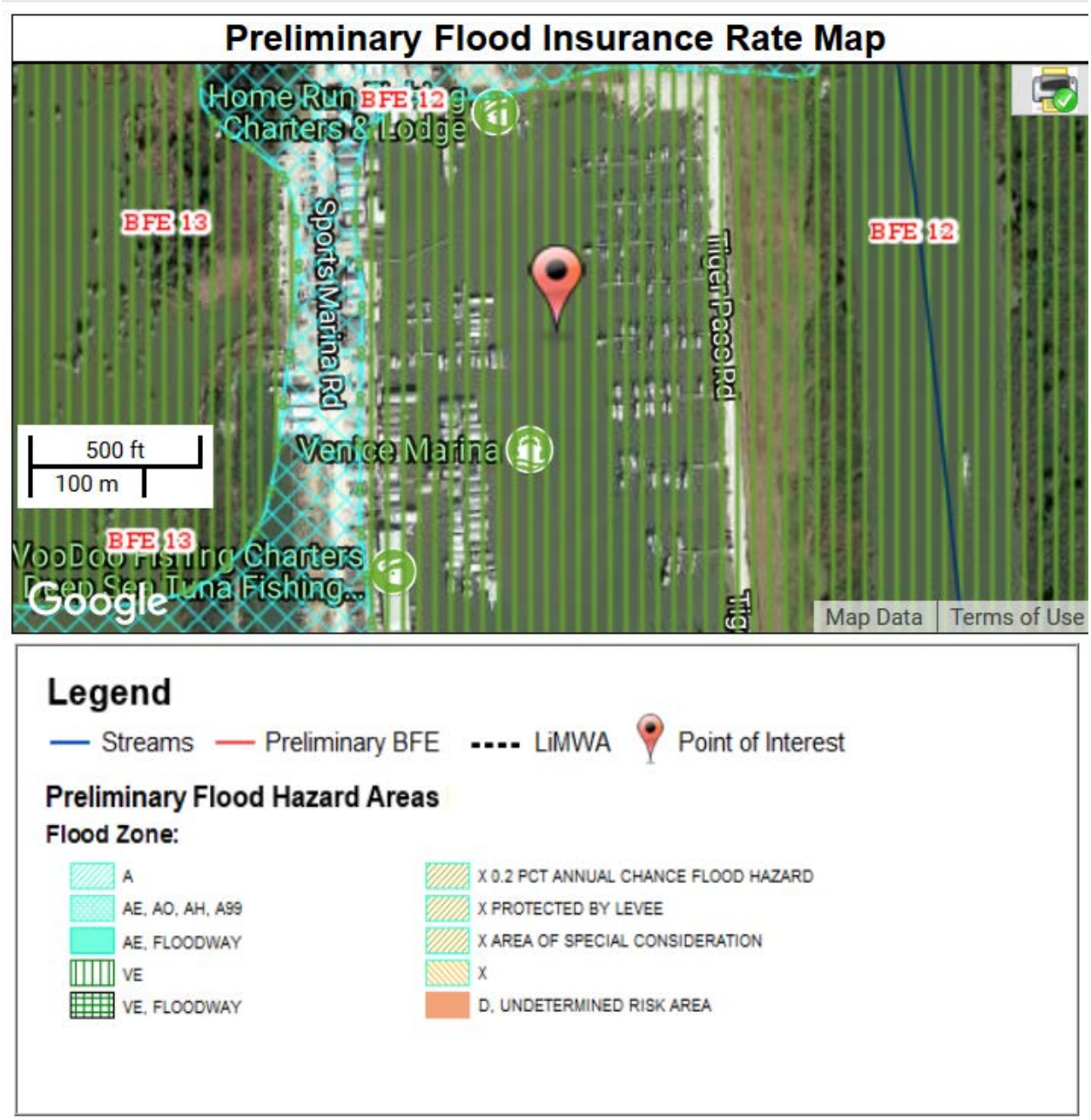

Figure 6 – Revised Preliminary FIRM Panel Number 22075C1225E Dated 31 August 2016 (FEMA 2016).

4.3.3 Environmental Consequences

Practicable alternatives to locating the proposed action in the floodplain were identified and evaluated. Various practicability factors were considered including feasibility, social concerns, hazard reduction, mitigation costs, and environmental impacts.

Alternative 1 – No Action

The "No Action" alternative would not entail any dredging of the Venice Boat Harbor. This alternative would have no further adverse impacts to the floodplain.

Alternative 2 – Dredge the Harbor and Dispose of Dredge Material in Open Waters

Alternative 2 was reviewed for possible impacts associated with occupancy or modification to a floodplain. Due to the previously developed character of the harbor site, additional impacts to the nature of the floodplain itself have been determined to be negligible. Dredging of the harbor would not affect the functions and values of the 100-year floodplain since these facilities would not impede or redirect flood flows.

Per 44 C.F.R. § 9.11(d)(6), no project should be built to a floodplain management standard that is less protective than what the community has adopted in local ordinances through their participation in the NFIP. The Applicant would be required to coordinate with the local floodplain administrator regarding floodplain permit(s) prior to the start of any activities. Per 44 C.F.R. § 9.11(d)(9), for the replacement of building contents, materials, and equipment, where possible disaster-proofing of the building and/or elimination of such future losses should occur by relocation of those building contents, materials, and equipment outside or above the base floodplain.

Alternative 3 – Dredge the Harbor and Use Dredge Material for Marsh Creation (Proposed Action)

Alternative 3 was reviewed for possible impacts associated with occupancy or modification to a floodplain. Due to the previously developed character of the proposed harbor site, additional impacts to the nature of the floodplain itself have been determined to be negligible. The proposed dredging of Venice Boat Harbor would not likely affect the functions and values of the 100-year floodplain since the facility would not impede or redirect flood flows.

Per 44 § C.F.R. 9.11(d)(6), no project should be built to a floodplain management standard that is less protective than what the community has adopted in local ordinances through their participation in the NFIP. The Applicant would be required to coordinate with the local floodplain administrator regarding floodplain permit(s) prior to the start of any activities. Per 44 C.F.R. § 9.11(d)(9), for the replacement of building contents, materials, and equipment, where possible disaster-proofing of the building and/or elimination of such future losses should occur by relocation of those building contents, materials, and equipment outside or above the base floodplain.

4.4 Coastal Resources

4.4.1 Regulatory Setting

4.4.1.1 Coastal Zone Management Act of 1972

The Coastal Zone Management Act (CZMA) encourages the management of coastal zone areas and provides grants to be used in maintaining these areas. It requires that federal agencies be consistent in enforcing the policies of state coastal zone management programs when conducting or supporting activities that affect a coastal zone. This is intended to ensure that federal activities are consistent with state programs for the protection and, where possible, enhancement of the nation's coastal zones.

The Act's definition of a coastal zone includes coastal waters extending to the outer limit of state submerged land title and ownership, adjacent shorelines, and land extending inward to the extent necessary to control shorelines. A coastal zone includes islands, beaches, transitional and intertidal areas, and salt marshes.

The CZMA requires that coastal states develop a State Coastal Zone Management Plan or program and that any federal agency conducting or supporting activities affecting the coastal zone conduct or support those activities in a manner consistent with the approved state plan or program. To comply with the CZMA, a federal agency must identify activities that would affect the coastal zone, including development projects, and review the state coastal zone management plan to determine whether a proposed activity would be consistent with the plan.

4.4.1.2 Louisiana State and Local Coastal Resources Management Act of 1978

Pursuant to the CZMA, the State and Local Coastal Resources Management Act of 1978 (R.S. 49:214:21 et seq. Act 1978, No. 361), is the state of Louisiana's legislation creating the Louisiana Coastal Resources Program (LCRP). The LCRP establishes policy for activities including construction in the coastal zone, defines and updates the coastal zone boundary, and creates regulatory processes. The LCRP is under the authority of the Louisiana Department of Natural Resource's (LDNR) Office of Coastal Management (OCM). If a proposed action is within the Coastal Zone boundary, OCM will review the eligibility of the project prior to its review from other federal agencies (USACE, USFWS, and National Marine Fisheries Service [NMFS]). The mechanism used to review these projects is the Coastal Use Permit (CUP). Per the CZMA, all proposed federal projects within the coastal zone must undergo a Consistency Determination by OCM for that project's consistency with the state's Coastal Resource Program (i.e., LCRP) (LDNR 2014).

4.4.1.3 Coastal Barrier Resources Act of 1972

The USFWS regulates federal funding in John H. Chafee Coastal Barrier Resources System (CBRS) units under the Coastal Barrier Resources Act (CBRA). CBRA protects undeveloped coastal barriers and related areas (i.e., Otherwise Protected Areas) by restricting direct or indirect federal funding of projects that support development in these areas. CBRA promotes appropriate use and conservation of coastal barriers along the Atlantic and Gulf coasts (USDOI 2014a).

4.4.2 Existing Conditions

The existing and proposed change of location facilities are located within the coastal zone and may be required to obtain a CUP prior to construction (Appendix B). The project site is not located within a regulated CBRS unit.

4.4.3 Environmental Consequences

Alternative 1 – No Action

The "No Action" alternative would entail no undertaking and therefore, would have no impact on a coastal zone or a CBRS unit.

Alternative 2 – Dredge the Harbor and Dispose of Dredge Material in Open Waters

Dredging the Venice Boat Harbor to pre-disaster condition would involve construction in a designated coastal zone. Per letter from LDNR OCM dated 3 March 2013, the granting of federal financial assistance as defined in 15 C.F.R. § 930.91 is fully consistent with the LCRP. Consistency with the LCRP does not exempt applicants from the need to obtain a CUP, if required. Plaquemines Parish was responsible for coordinating with LDNR OCM to obtain any CUP that may be required as a result of this project. The project site is not located within a CBRS unit; therefore CBRA requirements do not apply.

Alternative 3 – Dredge the Harbor and Beneficially Use Dredge Material for Marsh Creation (Proposed Action)

The Proposed Action alternative would involve construction in a designated coastal zone. Per letter from LDNR OCM dated 3 March 2013, the granting of federal financial assistance as defined in 15 C.F.R. § 930.91 is fully consistent with the LCRP. Consistency with the LCRP does not exempt applicants from the need to obtain a CUP, if required. The proposed project is inside the Louisiana Coastal Zone and a complete CUP Application packet is required in order to properly evaluate the work. Plaquemines Parish submitted a Joint Permit Application to the LDNR and a CUP was issued for the proposed work, Permit Number P20140407. FEMA requires this project comply with all conditions of the CUP as shown in Section 6, Project Conditions. The project site is not located within a CBRS unit; therefore CBRA requirements do not apply.

4.5 Federally Protected Species, Critical Habitats, and Other Biological Resources

4.5.1 Regulatory Setting

4.5.1.1 Endangered Species Act

The Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531-1543) prohibits the taking of listed, threatened, and endangered species unless specifically authorized by permit from the USFWS or the NMFS. "Take" is defined in 16 U.S.C. 1532 (19) as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering (50 C.F.R. § 17.3) (Endangered and Threatened Wildlife and Plants 1975).

Section 7(a)(2) of the ESA requires the lead federal agency to consult with either the USFWS or the NMFS, depending which agency has jurisdiction over the federally listed species in question, when a federally funded project either may have the potential to adversely affect a federally listed species, or a federal action occurs within or may have the potential to impact designated critical habitat. The lead agency must consult with the USFWS, the NMFS, or both (Agencies) as appropriate and will determine if a biological assessment is necessary to identify potentially adverse affects to federally listed species, their critical habitat, or both. If a biological assessment is required, it will be followed by a biological opinion from the USFWS, the NMFS, or both depending on the jurisdiction of the federally listed species identified in the biological assessment. If the impacts of a proposed federal project are considered negligible to federally listed species, the lead agency may instead prepare a letter to the Agencies with a "May Affect, but Not Likely to Adversely Affect" determination requesting the relevant agency's concurrence. This DEA serves to identify potential impacts and meet the ESA § 7 requirement by ascertaining the risks of the proposed action and alternatives to known federally listed species and their critical habitat, as well as providing a means for consultation with the Agencies.

4.5.1.2 Migratory Bird Treaty Act

Unless otherwise permitted by regulation, the Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712) prohibits pursuing; hunting; taking; capturing; killing; attempting to take, capture, or kill; possessing; offering for sale; selling; offering to purchase; purchasing; delivering for shipment; shipping; causing to be shipped; delivering for transportation; transporting; causing to be transported; carrying or causing to be carried by any means whatever; receiving for shipment, transportation, or carriage; or exporting; at any time or in any manner, any migratory bird or any part, nest, or egg of any such bird, that is included on the list of protected bird species (General Provisions; Revised List of Migratory Birds 2013). The USFWS is responsible for enforcing the provisions of this Act.

4.5.1.3 Magnuson-Stevens Fishery Conservation and Management Act of 1976

The Magnuson-Stevens Fishery Conservation and Management Act (Public Law 94-265, as amended through January 17, 2007) (MSA) was first enacted in 1976 and has since undergone revisions and amendments in 1996 and 2007 as the Sustainable Fisheries Act and the MSA Reinvestment Act, respectively. The MSA is designed to protect fish off the coasts of the United States (inshore and offshore fisheries), the highly migratory species of the high seas, the species which dwell on or in the Continental Shelf appertaining to the United States, and the anadromous species which spawn in United States rivers or estuaries, as these species constitute valuable and renewable natural resources.

Essential Fish Habitat

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established a new requirement to describe and identify "essential fish habitat" (EFH) in each federal fishery management plan. NOAA NMFS issued EFH regulations in January 2002. EFH is defined in the MSA as "...those waters and

substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The rules promulgated by the NMFS in 1997 and 2002 further clarify EFH with the following definitions: waters - aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; substrate - sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary - the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and spawning, breeding, feeding, or growth to maturity - stages representing a species' full life cycle (NOAA 2012). In Louisiana, the Gulf of Mexico Fishery Management Council (GMFMC) is the governing body responsible for identifying which species of fish, shrimp, lobster and coral will be included in the Gulf of Mexico Fishery Management Plan (FMP).

4.5.2 Existing Conditions

Fisheries Resources

Project area wetlands consist of tidally influenced, but very infrequently inundated, intermediate marsh vegetation dominated by common reed, broad-leaf cattail, and black willow. The project is located in an area which has been identified as EFH for various life stages of federally managed species, including postlarval and juvenile life stages of red drum, brown shrimp and white shrimp. The primary categories of EFH which would be affected by project implementation are estuarine emergent wetlands, submerged aquatic vegetation (SAV), estuarine water column, and mud substrates. Detailed information on federally managed fisheries and their EFH is provided in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico prepared by the GMFMC. The generic amendment was prepared as required by the MSA (NMFS 2015).

Water depths in the marsh creation area range from less than an inch to a foot and a half in the vegetated areas and five to six feet in the open water areas. Freshwater fish that are tolerant of slightly saline conditions and estuarine fish and shellfish abound. The marshes and estuarine bays provide excellent spawning and nursery areas for recreational and commercial species. In addition to being designated as EFH for red drum, brown shrimp and white shrimp, the wetlands and water bottoms in the project area provide nursery and foraging habitats supportive of a variety of marine fishery species, such as Atlantic croaker, gulf menhaden, striped mullet, spotted sea trout, southern flounder, black drum, and blue crab. Some of these species serve as prey for other fish species managed under the MSA by the GMFMC (e.g., mackerels, snappers, and groupers) and highly migratory species managed by NMFS (e g., billfishes and sharks). Wetlands in the project area also produce nutrients and detritus, important components of the aquatic food web, which contribute to the overall productivity of the Barataria Bay estuary (NMFS 2015).

Migratory Birds and Wildlife

The Mississippi River Delta provides important nesting and brooding habitat for mottled ducks, wading birds, and shore birds. Migratory and resident waterfowl are also abundant in the area. The National Audubon Society designated the Mississippi River Delta an Important Bird Area. The active delta provides habitat for wintering waterfowl, wading birds, marsh birds, and shore birds. The higher elevations of shrub-dominated spoil banks and willow-dominated uplands provide important stopover habitat for numerous Neotropical migratory songbird species which breed in North America and spend the winter in Mexico, the Caribbean, and Central or South America. One hundred and seventy-five avian species were detected during two seasons of transect counts on the Pass a Loutre WMA and the Delta NWR.

The proposed project area contains a variety of birds, mammals, and other wildlife. Both migratory and resident birds occur in or near the project area. Common birds include ibis (Plegadis spp.; Eudocimus albus), egrets (Ardea alba; Egretta thula), cormorants (Phalacrocorax spp.), terns (Sterna spp.), gulls (Larus spp.), skimmers (Rynchops niger), sandpipers (Calidris spp.), pelicans (Pelecanus spp.), osprey (Pandion haliaetus), herons (Ardea herodias; Egretta spp.; Nycticorax spp.), hawks (Accipiter spp.; Buteo spp.),

kestrels (Falco sparverius), vultures (Coragyps atratus; Cathartes aura), frigatebirds (Fregata magnificens), grackles (Quiscalus spp.), blackbirds (Agelais phoeniceus), and several species of swallows, flycatchers, wrens, warblers, and sparrows. Wintering migratory waterfowl using the surrounding marshes include snow geese (Chen caerulescens), gadwalls (Anas strepera), pintails (Anas acuta), mallards (Anas platyrhynchos), blue-winged teal (Anas discors), green-winged teal (Anas crecca), shovelers (Anas clypeata), coot (Fulica americana), redheads (Aythya americana), lesser scaup (Aythya affinis), mergansers (Mergus spp.; Lophodytes cucullatus), wigeons (Anas americana), canvasbacks (Aythya valisineria), and some black ducks (Anas rubripes). The mottled duck (Anas fulvigula), highly sought by sportsmen, is the only species of waterfowl nesting and wintering in the area. Grebes (Podilymbus podiceps; Podiceps spp.) and loons (Gavia immer) are nongame migratory waterfowl wintering in the area, and the common snipe (Gallinago gallinago) is the only game species of shorebird wintering in the area. Numerous other shorebirds use the area as a resting and staging area during migration. Table 1 lists endangered species in the project area.

Table 1- List of Endangered Species in the Action Area

Species	ESA Listing Status	Listing Rule/Date	Most Recent recovery plan date	Effect Determination (Species)
Kemp's ridley sea turtle	E	35 FR 18319/ December 2, 1970	September 2011	NLAA
Leatherback sea turtle	E	35 FR 8491/ June 2, 1970	April 1992	NLAA
Loggerhead sea turtle (Northwest Atlantic Ocean [NWA] Distinct Population Segment [DPS])	T	76 FR 58868/ September 22, 2011	January 2009	NLAA
Green sea turtle (NA and SA DPS)	E	81 FR 20057/April 6, 2016	October 29, 1991	NLAA
Hawksbill sea turtle	E	35 FR 8491/ June 2, 1970	December 1993	NLAA

4.5.3 Environmental Consequences

Alternative 1 – No Action

The "No Action" alternative would entail no undertaking and, therefore, would have no impact on species federally listed as threatened or endangered, migratory birds, EFH, or federally listed critical habitats.

Alternative 2 – Dredge the Harbor and Dispose of Dredge Material in Open Waters

By their nature, dredging activities impact benthic organisms such as worms, shellfish, and other invertebrates, through direct removal of these organisms from the substrate they inhabit. With hopper dredges, animals are drawn into the suction nozzle as it operates, in a process known as entrainment. Mechanical removal of sediments via dragline or other equipment results in comparable species mortality due to drying of the dredged material and the organisms within as it is piled onto barges for transport. Once dredging within the harbor is complete, however, the substrate would again be available for recolonization by these benthic organisms. Motile species such as crabs, shrimp, and fish generally are able to elude entrainment as they avoid the noise and turbulence created by the dredging operation. Similarly, during open water disposal of the dredged material, motile organisms can evade burial by leaving the area. Benthic organisms have no such ability, so would be smothered by the accumulating sediment. When dredging

near the mouth of the boat basin, a silt screen or another method for trapping sediment would be required to prevent deposition of disturbed sediment within the adjacent Pass Tante Phine (Tidewater Access Canal).

The main impact to migratory birds by the dredging operation would be a potentially undesirable noise level. The noise from the dredge vessel or construction equipment would be temporary, however, and birds would likely leave the immediate vicinity when dredging is actively occurring. Impacted species would be expected to return once operations cease.

Open water disposal would require implementing the NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions, available at: http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/sea_turtle_and_smalltooth_sawfish_construction_conditions_3-23-06.pdf.

Alternative 3 – Dredge the Harbor and Use Dredge Material for Marsh Creation (Proposed Action)

Dredging under this alternative would create the same impacts as described in Alternative 2. Benthic organisms unable to escape the dredging activity would suffer mortality. Motile species generally would be able to escape the area. Once dredging is complete, recolonization of the area would occur. Birds would be affected by the noise, but would return to the site once dredging ceases. When dredging near the mouth of the boat basin, a silt screen or another method for trapping sediment would be required to prevent deposition of disturbed sediment within the adjacent Pass Tante Phine (Tidewater Access Canal).

The discharge of dredged material into the open water area to the west of the boat basin would occur as previously described. In order to prevent the trapping of species behind the mound of sediment created as the material is discharged, deposition of the dredged material would begin near the marsh on the eastern side of the disposal area and then proceed in a westerly direction as the desired elevation is achieved. The outfall pipe would be moved as frequently as necessary in order to achieve the proper pre-settlement grade. The desired final elevation would be approximately 2.5 feet msl (3.2 feet NAVD88).

During the course of the dredging operation, since the disposal area would not be confined by levees, a silt fence adequate to prevent the escape of fine paricles would be placed along the western margin of the disposal site in order to prevent material escaping into surrounding open water areas. Should the rate or volume of discharge prevent adequate settling and sediment retention such that the silt fence becomes ineffective, dredging will cease until the system is able to recover and function properly. Because the silt fence would have the undesirable effect of trapping aquatic organisms, such as crabs and fish, within the disposal area, a 10-foot section of the fence at the farthest point away from the discharge point would need to be opened every three days during the night to allow organisms to escape. Should the silt fence prove unreliable or fail to function, an alternative means approved by LDNR and the USACE may be employed.

In a 13 July 2017 response to FEMA's online consultation performed on the USFWS iPAC site on 13 April 2015, the USFWS stated:

> "Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect Federally listed species and/or designated critical habitat.
>
> "A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

> "If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected (e.g. adverse, beneficial, insignificant or discountable) by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license Sub-Recipients, can be found in the "Endangered Species Consultation Handbook" at http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF or by contacting our office at the number above."

The USFWS indicated that threatened, endangered, or candidate species should be considered in an impacts analysis for the proposed project. According to the USFWS, there is critical habitat located wholly or partially within the project area.

In its 19 June 2015 response to FEMA's 2 June 2015 Solicitation of Views, the NMFS stated, that it "supports the beneficial use of dredged material to create more productive categories of EFH (i.e., marsh) out of less productive categories (i.e., water bottoms and water column). However, NMFS is concerned dredged material could adversely impact EFH if stacked too high or placed directly on emergent vegetation or SAV. If dredged sediment were placed on marsh or stacked to high, wetlands, water bottoms and water column categorized as EFH would be converted to non-tidal habitat."

In accordance with USFWS letter and to facilitate further onsultation with NMFS, FEMA requested that Plaquemines Parish prepare a Biological Assessment for the project, which is attached in Appendix E. FEMA determined, based on the Biological Assessment, that the proposed project may affect, but is not likely to adversely affect (NLAA) federally-listed species and consulted with USFWS and NMFS pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1536), and the consultation procedures at 50 C.F.R. Part 402.

On 1 March, 2018, FEMA submitted a Letter of Concurrence (LOC) to NOAA's NMFS requesting ESA Section 7 concurrence through an Expedited Track process. FEMA concluded the proposal is NLAA species found in or near the Venice Boat Harbor letter. On 1 April, 2018, the NMFS responded to FEMA's LOC indicating their concurrence with FEMA's ESA Section 7 determination. The LOC request and the NMFS response are attached to this EA in Appendix E.

4.6 Air Quality

4.6.1 Regulatory Setting

4.6.1.1 Clean Air Act of 1970 (Including 1977 and 1990 Amendments)

The Clean Air Act (CAA) (42 U.S.C. § 7401 et seq.) is the federal law that regulates air emissions from stationary and mobile sources. This law tasks the USEPA, among its other responsibilities, with establishing primary and secondary air quality standards. Primary air quality standards protect the public's health, including the health of "sensitive populations, such as people with asthma, children, and older adults." Secondary air quality standards protect the public's welfare by promoting ecosystem health, preventing decreased visibility, and reducing damage to crops and buildings. The USEPA also has set National Ambient Air Quality Standards (NAAQS) for the following six (6) criteria pollutants: carbon monoxide (CO), lead (Pb), nitrogen oxides (NO_x), ozone (O_3), particulate matter (less than 10 micrometers [PM_{10}] and less than 2.5 micrometers [$PM_{2.5}$]), and sulfur dioxide (SO_2).

Under the 1990 amendments to the CAA, the USEPA may delegate its regulatory authority to any state which has developed an approved State Implementation Plan (SIP) for carrying out the mandates of the CAA. The State of Louisiana's initial SIP was approved on 5 July 2011, and its CAA implementing

regulations are codified in Title 33.III of the Louisiana Environmental Regulatory Code. The SIP has been revised several times since its original approval.

According to 40 C.F.R. § 93.150(a), "No department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an applicable implementation plan." In addition, 40 C.F.R. § 93.150(b) states, "A Federal agency must make a determination that a Federal action conforms to the applicable implementation plan in accordance with the requirements of this subpart before the action is taken." As a result, when FEMA provides financial assistance for a project, such as the one currently under review in this DEA, the CAA requires a General Conformity determination whenever the project site is located in a "non-attainment area" for any one (1) of the six (6) criteria pollutants (Revisions to the General Conformity Regulations 2010).

4.6.2 Existing Conditions

According to *The Green Book Nonattainment Areas for Criteria Pollutants* (USEPA 2014b), the Parish of Plaquemines is considered to be an "attainment area" for criteria pollutants. As a result, no General Conformity determination is required by FEMA for projects it funds within this parish.

4.6.3 Environmental Consequences

Alternative 1 – No Action

The "No Action" alternative would involve no undertaking and, therefore, would cause no short- or long-term impacts to air quality.

Alternative 2 – Dredge the Harbor and Dispose of Dredge Material in Open Waters

This alternative potentially includes short-term impacts to air quality that are likely to occur during dredging. Particulate emissions from the generation of fugitive dust during project construction would likely be increased temporarily in the immediate project vicinity. Other emission sources on site could include internal combustion engines from work vehicles, air compressors, or other tyes of construction equipment. These effects would be localized and of short duration.

To reduce potential short term effects to air quality from construction-related activities, the contractor would be responsible for using BMPs to reduce fugitive dust generation and diesel emissions. Emissions from the burning of fuel by internal combustion engines could temporarily increase the levels of some of the criteria pollutants, including CO_2, NO_x, O_3, and PM_{10}, and non-criteria pollutants such as volatile organic compounds. To reduce these emissions, running times for fuel-burning equipment should be kept to a minimum and engines should be properly maintained.

Alternative 3 – Dredge the Harbor and Use Dredge Material for Marsh Creation (Proposed Action)

The Proposed Action alternative potentially includes short-term impacts to air quality that are likely to occur during dredging. Particulate emissions from the generation of fugitive dust during project activities would be temporarily increased in the immediate vicinity of the project area. Other on-site sources of emissions would include internal combustion engines and heavy construction equipment. These effects would be localized and of short duration, however.

To reduce potential short term effects to air quality from construction-related activities, the contractor would be responsible for using BMPs to reduce fugitive dust generation and diesel emissions. For example, the contractor would be required to water down construction areas when necessary to minimize particulate matter and dust. Emissions from the burning of fuel by internal combustion engines (e.g., heavy equipment and earthmoving machinery) could temporarily increase the levels of some of the criteria pollutants, including CO_2, NO_2, O_3, and PM_{10}, and non-criteria pollutants such as volatile organic compounds. To

reduce emissions of criteria pollutants, running times for fuel-burning equipment should be kept to a minimum and engines should be properly maintained.

4.7 Noise

4.7.1 Regulatory Setting

Noise is commonly defined as unwanted or unwelcome sound and most commonly measured in decibels (dBA) on the A-weighted scale (i.e., the scale most similar to the range of sounds that the human ear can hear). The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. Sound is federally regulated by the Noise Control Act of 1972, which charges the USEPA with preparing guidelines for acceptable ambient noise levels. USEPA guidelines, and those of many other federal agencies, state that outdoor sound levels in excess of 55 dBA DNL are "normally unacceptable" for noise-sensitive land uses including residences, schools, or hospitals (USEPA 1974). The Noise Control Act, however, only charges implementation of noise standards to those federal agencies that operate noise-producing facilities or equipment.

The Plaquemines Parish Noise Ordinance may be found in Article IX of the Plaquemines Parish Municipal Code, which may reviewed online at https://library.municode.com/la/plaquemines_parish/codes/code_of_ordinances?nodeId=PTIICOOR_CH17OFIS_ARTIXNO. According to Section 17-133, during the hours of 7:00 a.m. and 10:00 p.m., sound levels, including noises from construction activities, shall not exceed 60 dBA, the maximum permissible sound level restriction for the zoning categories including residential, noise sensitive areas, and public spaces. Sound levels from construction activities shall not exceed 65 dBA, the maximum permissible sound level restriction in the commercial and convention zoning categories between the hours of 7:00 a.m. and 10:00 p.m. During construction activities, mufflers on construction equipment shall be properly maintained at all times.

4.7.2 Existing Conditions

The project area under consideration in this EA includes sources of noise from harbor activities and nearby industrial activities that are active year-round. Current sources include vehicular traffic, boats, and heavy equipment. Nearby industrial activity includes oil and gas extraction and processing plants as well as other related trades such as metal fabrication, ship breaking and repair, and cargo handling. None of the activity identified at the site or nearby include noise sensitive receptors. No schools, hospitals, or residential areas are located within a three mile radius of the site.

4.7.3 Environmental Consequences

Alternative 1 – No Action

Under the "No Action" alternative there would be no short- or long-term impact to noise levels because no construction would occur.

Alternative 2 – Dredge the Harbor and Dispose of Dredge Material in Open Waters

Under this alternative, construction activities would result in short-term increases in noise during the reconstruction/reconfiguration period. Equipment and machinery utilized on the project site would be expected to meet all local, state, and federal noise regulations. Following completion of construction activities, operations at the Venice Boat Harbor would not result in any permanent increases in noise levels.

Alternative 3 – Dredge the Harbor and Beneficially Use Dredge Material for Marsh Creation (Proposed Action)

For the Proposed Action alternative, construction activities would result in short-term increases in noise during the construction period, particularly with regard to dredging machinery. Equipment and machinery utilized on the project site would be expected to meet all local, state, and federal noise regulations. Following completion of construction activities, operations at the Venice Boat Harbor would not result in any permanent increases in noise levels.

4.8 Traffic

4.8.1 Regulatory Setting

The Louisiana Department of Transportation and Development (LaDOTD) is responsible for maintaining public transportation, state highways, interstate highways under state jurisdiction, and bridges located within the State of Louisiana. These duties include the planning, design, and building of new highways in addition to the maintenance and upgrading of current highways. Roads not part of any highway system usually fall under the jurisdiction of and are maintained by applicable local government entities; however, the LaDOTD is responsible for assuring all local agency federal-aid projects comply with all applicable federal and state requirements (LaDOTD 2014).

4.8.2 Existing Conditions

At the present time, the project site is in use as an active boat harbor. Motor vehicular traffic enteres the site on the north from Venice Boat Harbor Road, which connects to Tidewater Road (State Route 23) one mile to the west. The Venice Boat Harbor has two named roads, Tiger Pass Road on the east side and Sports Marina Road on the west side.

4.8.3 Environmental Consequences

Alternative 1 – No Action

Implementation of the "No Action" alternative would not adversely affect the site traffic patterns as no construction would occur.

Alternative 2 – Dredge the Harbor and Dispose of Dredge Material in Open Waters

Workers who operate construction vehicles or heavy equipment risk injury due to overturn, electrocution, collision, or being caught in running equipment. Construction workers, regardless of their assigned task, often work in conditions of low lighting, low visibility, and inclement weather, and may work in congested areas, with exposure to high traffic volume and speed. Open trenches present fall and engulfment hazards to site workers and pedestrian traffic. Furthermore, pedestrians and bicyclists must negotiate adjacent roads and sidewalks during construction and require special consideration during safety planning and decision-making.

Under this action alternative, a temporary increase in construction-related traffic during dredging of the harbor would be anticipated. Once dredging operations have been completed, traffic would be expected to return to normal. No long-term effects on current traffic patterns would likely occur.

During construction the contractor would be expected to take all reasonable precautions to control site access. All activities would be conducted in a safe manner in accordance with Occupational Safety and Health Administration (OSHA) work zone traffic safety requirements. The contractor would post appropriate signage and fencing to minimize foreseeable potential public safety concerns. Proper signs and barriers would be in place prior to the initiation of construction activities in order to alert pedestrians and motorists of the upcoming work and traffic pattern changes (e.g., detours or lanes dedicated for construction equipment egress).

Alternative 3 – Dredge the Harbor and Use Dredge Material for Marsh Creation (Proposed Action)

Workers who operate construction vehicles or heavy equipment risk injury due to overturn, electrocution, collision, or being caught in running equipment. Construction workers, regardless of their assigned task, often work in conditions of low lighting, low visibility, and inclement weather, and may work in congested areas, with exposure to high traffic volume and speed. Open trenches present fall and engulfment hazards to site workers and pedestrian traffic. Furthermore, pedestrians and bicyclists must negotiate adjacent roads and sidewalks during construction and require special consideration during safety planning and decision-making.

Under the Proposed Action alternative, a temporary increase in traffic during dredging would be expected. Once dredging operations have been completed, traffic would be expected to return to normal. Only minimal long-term effects, if any, on current traffic patterns would likely occur.

During construction the contractor would be expected to take all reasonable precautions to control site access. All activities would be conducted in a safe manner in accordance with OSHA work zone traffic safety requirements. The contractor would post appropriate signage and fencing to minimize foreseeable potential public safety concerns. Proper signs and barriers would be in place prior to the initiation of construction activities in order to alert pedestrians and motorists of the upcoming work and traffic pattern changes (e.g., detours or lanes dedicated for construction equipment egress).

4.5 Cultural Resources

4.5.1 Regulatory Setting

The consideration of impacts to historic and cultural resources is mandated under Section 101(b)4 of the National Environmental Policy Act (NEPA) as implemented by 40 CFR, Parts 1501-1508. Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to take into account their effects on historic properties (*i.e.*, historic and cultural resources) and allow the Advisory Council on Historic Preservation an opportunity to comment. FEMA has chosen to address potential impacts to historic properties through the "Section 106 consultation process" of the NHPA as implemented through 36 CFR, Part 800.

In order to fulfill its Section 106 responsibilities, FEMA has initiated review of this project in accordance with the Louisiana Programmatic Agreement Among the Federal Emergency Management Agency, the Louisiana State Historic Preservation Officer (SHPO), the Governor's Office Of Homeland Security and Emergency Preparedness, and Participating Tribes executed on December 21, 2016 (2016 LA Statewide PA) (https://www.fema.gov/media-library/assets/documents/128322). The 2016 Statewide PA was created to streamline the Section 106 review process.Historic properties, defined in Section 101(a)(1)(A) of NHPA, include districts, sites (archaeological and religious/cultural), buildings, structures, and objects that are listed in or determined eligible for listing in the National Register of Historic Places (NRHP). Historic properties are identified by qualified agency representatives in consultation with interested parties.

4.5.2 Existing Conditions

On June 3, 2011, FEMA Historic Preservation Staff consulted the National Register of Historic Places (NRHP) database, the Louisiana Cultural Resources Map, and aerial photographs and determined the project area is not located within a National Register Historic District (NRHD). Additionally, there are no recorded archaeological sites within one mile of the project area.

4.5.3 Environmental Consequences

Alternative 1 – No Action

This alternative does not include any FEMA undertaking; therefore no cultural resrouces will be impacted and FEMA has no further responsibilities under Section 106 of the NHPA.

Alternative 2 – Dredge the Harbor and Dispose of Dredge Material in Open Waters

A review of this alternative was conducted in accordance with FEMA's 2016 LA Statewide PA. Based on research using the NRHP database and the Louisiana Cultural Resources Map on the Louisiana Division of Historic Preservation's website, FEMA has determined that the project area is not located within a National Register Historic District. Upon consultation of data provided by the SHPO, there are no known archaeological sites within one mile of the project area and all work will occur within a previously dredged harbor. In accordance with 2016 LA Statewide PA, FEMA determined that the scope of work met the criteria in Appendix C: Programmatic Allowances, Tier II, Section A (4)(c) for Sediment and debris removal from human-made drainage facilities, including retention/detention basins, ponds, ditches, and canals, in order to restore the facility to its pre-disaster condition. The sediment may be used to repair eroded banks or disposed of at an existing licensed or permitted spoil site. s. FEMA is not required to consult with the SHPO where work performed meets these criteria. FEMA has determined that there will be no affects to historic properties as a result of implementing this alternative. The applicant must comply with the Louisiana Unmarked Human Burial Sites Preservation Act (R.S. 8:671 et seq.) and the Inadvertent Discovery Clause, which can be found in Section 6 of this EA, Conditions and Mitigation Measures.

Alternative 3 – Dredge the Harbor and Use Dredge Material for Marsh Creation (Proposed Action)

. A review of the proposed alternative was conducted in accordance with FEMA's 2016 LA Statewide PA. Based on research using the NRHP database and the Louisiana Cultural Resources Map on the Louisiana Division of Historic Preservation's website, FEMA has determined that the project area is not located within a National Register Historic District. Upon consultation of data provided by the SHPO, there are no known archaeological sites within one mile of the project area and all work will occur within a previously dredged harbor. In accordance with 2016 LA Statewide PAthis PA, FEMA determined that the scope of work met the criteria in Appendix C: Programmatic Allowances, Tier II, Section A (4)(c) for Sediment and debris removal from human-made drainage facilities, including retention/detention basins, ponds, ditches, and canals, in order to restore the facility to its pre-disaster condition. The sediment may be used to repair eroded banks or disposed of at an existing licensed or permitted spoil site.FEMA has determined that there will be no affects to historic properties as a result of implementing this alternative. The applicant must comply with the Louisiana Unmarked Human Burial Sites Preservation Act (R.S. 8:671 et seq.) and the Inadvertent Discovery Clause, which can be found in Section 6 of this EA, Conditions and Mitigation Measures.

4.10 Hazardous Materials

4.10.1 Regulatory Setting

The management of hazardous materials is regulated under various federal and state environmental and transportation laws and regulations, including but not limited to the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Toxic Substances Control Act (TSCA); the Emergency Planning and Community Right-to-Know provisions of the Superfund Amendments and Reauthorization Act (SARA); the Hazardous Materials Transportation Act; and the Louisiana Voluntary Investigation and Remedial Action statute. The purpose of the regulatory requirements set forth under these laws is to ensure the protection of human health and the environment through proper management (identification, use, storage, treatment, transport, and disposal) of these materials. Some of the laws provide for the investigation and cleanup of sites already contaminated by releases of hazardous materials, wastes, or substances.

The TSCA (codified at 15 U.S.C., Ch. 53), authorizes the USEPA to protect the public from "unreasonable risk of injury to health or the environment" by regulating the introduction, manufacture, importation, sale, use, and disposal of specific new or already existing chemicals. "New Chemicals" are defined as "any chemical substance which is not included in the chemical substance list compiled and published under

[TSCA] § 8(b)." Existing chemicals include any chemical currently listed under § 8(b), including polychlorinated biphenyls (PCBs), asbestos, radon, lead-based paint, chlorofluorocarbons, dioxin, and hexavalent chromium.

TSCA Subchapter I, "Control of Toxic Substances" (§§ 2601-2629), regulates the disposal of PCB-containing products, sets limits for PCB levels present within the environment, and authorizes the remediation of sites contaminated with PCBs. Subchapter II, "Asbestos Hazard Emergency Response" (§§ 2641-2656), authorizes the USEPA to impose requirements for asbestos abatement in schools and requires accreditation of those who inspect asbestos-containing materials. Subchapter IV, "Lead Exposure Reduction" (§§ 2681-2692), requires the USEPA to identify sources of lead contamination in the environment, to regulate the amounts of lead allowed in products, and to establish state programs that monitor and reduce lead exposure.

4.10.2 Existing Conditions

USEPA database searches for the proposed project area and vicinity reveal that there are five (5) properties, including the Venice Marina, listed as water dischargers. All five sites have EPA NPDES Permits. There are no known offsite hazardous waste or federal brownfield sites in close proximity to the subject tract. The project site appears in the LDEQ's Electronic Document Management System (EDMS) database for other hazardous waste management and disposal, solid waste disposal, leaking underground storage tank, enforcement, and similar databases. The LDEQ Agency Interest (AI) Number of the subject property is 190038. There are no recorded oil or gas wells on or near the subject property (LDEQ 2018).

The only records the EDMS database for the subject property pertain to the site's LPDES Permit discussed in Section 4.2.1.2. There were no records pertaining to hazardous materials or hazardous waste management or disposal. The LDEQ had no records for dredge spoil material testing.

4.10.3 Environmental Consequences

Alternative 1 – No Action

The "No Action" alternative would not disturb any hazardous materials or create any additional hazards to human health.

Alternative 2 – Dredge the Harbor and Dispose of Dredge Material in Open Waters

Construction activities frequently involve the use of hazardous materials such as fuels, oils, solvents, cleaners, and degreasers. Additional safety concerns include, among other things, the use of torches for cutting and welding, sanding and abrading activities, and open excavations. Workers may be exposed to environmental contamination beneath roadways when roadways are impacted by historical construction, land use, or waste management practices. Unanticipated conditions could exist whereby workers could be exposed to hazardous substances, such as from an underground storage tank leak. Furthermore, workers exposed to human waste or sewage are at increased risk from disease.

Project activities may involve the use of hazardous materials (e.g., petroleum products, cement, caustics, acids, solvents, paints, electronic components, pesticides/herbicides and fertilizers, and/or treated timber) and may result in the generation of small amounts of hazardous wastes. BMPs must be followed; appropriate measures to prevent, minimize, and control spills of hazardous materials taken; and any generated hazardous or non-hazardous wastes disposed of in accordance with applicable federal, state, and local requirements.

Alternative 3 – Dredge the Harbor and Beneficially Use Dredge Material for Marsh Creation (Proposed Action)

Construction activities frequently involve the use of hazardous materials such as fuels, oils, solvents, cleaners, and degreasers. Additional safety concerns include, among other things, the use of torches for

cutting and welding, sanding and abrading activities, and open excavations. Workers may be exposed to environmental contamination beneath roadways when roadways are impacted by historical construction, land use, or waste management practices. Unanticipated conditions could exist whereby workers could be exposed to hazardous substances, such as from an underground storage tank leak. Furthermore, workers exposed to human waste or sewage are at increased risk from disease.

Project activities may involve the use of hazardous materials (e.g., petroleum products, cement, caustics, acids, solvents, paints, electronic components, pesticides/herbicides and fertilizers, and/or treated timber) and may result in the generation of small amounts of hazardous wastes. BMPs must be followed; appropriate measures to prevent, minimize, and control spills of hazardous materials taken; and any generated hazardous or non-hazardous wastes disposed of in accordance with applicable federal, state, and local requirements.

4.11 Environmental Justice

4.11.1 Regulatory

E.O. 12898, entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," was signed on 11 February 1994 (U.S. President. 1994). The E.O. directs federal agencies to make achieving environmental justice part of their missions by identifying and addressing, as appropriate, disproportionately high adverse human health, environmental, economic, and social effects of their programs, policies, and activities on minority and/or low-income populations.

4.11.2 Existing Conditions

Information obtained from the U.S. Census Bureau (USDOC 2016), compiled and extrapolated by the USEPA and presented on its Enforcement and Compliance History website, indicates that the population within a one-mile radius of the proposed project site is composed of 16.6% African-American, 67.1% White, 11.7% Hispanic, and 4.6% other groups. Of these households, 32.7% have incomes less than $25,000 per year, with approximately 39.5% of individuals existing below the poverty level. For the 5-year dataset 2012-2016, the U.S. Census Bureau's American Community Survey (USDOC 2018) estimated median household income over the preceeding 12 months for Plaquemines (Plaquemines Parish) at $41,250 (in 2018 inflation-adjusted dollars).

4.11.3 Environmental Consequences

In compliance with E.O. 12898, the following key questions were addressed with regard to potential Environmental Justice concerns:

- Is there an impact caused by the proposed action?
- Is the impact adverse?
- Is the impact disproportionate?
- Has an action been undertaken without considerable input by the affected low-income and/or minority community?

<u>Alternative 1 – No Action</u>

The "No Action" alternative would not involve the implementation of a federal program, policy, or activity. As a result, there would be no disproportionately high adverse effects on low-income or minority populations.

<u>Alternative 2 – Dredge the Harbor and Dispose of Dredge Material in Open Waters</u>

There would be no disproportionately high adverse effects on low-income or minority populations with this alternative. It would provide the benefits of an improved recreational facility for the local community. Regardless, input from the affected low-income and/or minority community will be solicited through a public notice process.

Alternative 3 – Dredge the Harbor and Beneficially Use Dredge Material for Marsh Creation (Proposed Action)

There would be no disproportionately high adverse effects on low-income or minority populations with this alternative. It would provide the benefits of an improved recreational facility for the local community. Regardless, input from the affected low-income and/or minority community will be solicited through a public notice process.

5 CUMULATIVE IMPACTS

CEQ regulations state that the cumulative impact of a project represents the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 C.F.R. § 1508.7).

In its comprehensive guidance on cumulative impacts analysis under NEPA, CEQ notes that "the range of actions that must be considered includes not only the project proposal, but all connected and similar actions that could contribute to cumulative effects" (Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act 2005). The term, "similar actions," may be defined as "reasonably foreseeable or proposed agency actions [having] similarities that provide a basis for evaluating the environmental consequences together, such as common timing or geography" (40 C.F.R. § 1508.25[a][3]).

Not all potential issues identified during cumulative effects scoping need be included in a DEA. Because some effects may be irrelevant or inconsequential to decisions about the proposed action and alternatives, the focus of the cumulative effects analysis should be narrowed to important issues of national, regional, or local significance. To assist agencies in this narrowing process, CEQ (2007) provides a list of several basic questions to be considered, including: (1) Is the proposed action one of several similar past, present, or future actions in the same geographic area?; (2) Do other activities (governmental or private) in the region have environmental effects similar to those of the proposed action?; (3) Have any recent or ongoing NEPA analyses of similar or nearby actions identified important adverse or beneficial cumulative effect issues?; and (4) Has the impact been historically significant, such that the importance of the resource is defined by past loss, past gain, or investments to restore resources?

It is normally insufficient when conducting a cumulative effects analysis to merely analyze effects within the immediate area of the proposed action. Geographic boundaries should be expanded for cumulative effects analysis and conducted on the scale of human communities, landscapes, watersheds, or airsheds. Temporal frames should be extended to encompass additional effects on the resources, ecosystems, and human communities of concern. A useful concept in determining appropriate geographic boundaries for a cumulative effects analysis is the project impact zone, that is, the area (and resources within that area) that could be affected by the proposed action. The area appropriate for analysis of cumulative effects will, in most instances, be a larger geographic area occupied by resources outside of the project impact zone (CEQ 2007).

The proposed project site is located at Venice Boat Harbor Road in Plaquemines Parish, near the southern end of the 70091 zip code geographic region. FEMA has determined that the area within a 1-mile radius of the site constitutes an appropriate project impact zone. Due to the site's position near the zip code boundary, use of the territory contained within the 70091 zip code perimeter was not appropriate for a cumulative impact investigation of the proposed action and alternatives. Instead, a one-mile radius around the project site was used for this analysis.

In accordance with NEPA, and to the extent reasonable and practical, this DEA considered the combined effects of the Proposed Action alternative and other actions undertaken by FEMA, as well as actions by other public and private entities, that affect the environmental resources the proposed action also would affect, and occur within the considered geographic area and temporal frame(s).

Specifically, a range of past, present, and reasonably foreseeable future actions undertaken by FEMA within the designated geographic boundary area were reviewed: (1) for similarities such as scope of work, common timing and geography; (2) to determine environmental effects similar to those of the proposed action, if any; and (3) to identify the potential for cumulative impacts. As part of the cumulative effects analysis, FEMA also reviewed known past, present, and reasonably foreseeable future projects of federal agencies

and other parties identified within the designated geographic boundary. These reviews were performed in order to assess the effects of proposed, completed, and ongoing activities and to determine whether the incremental impact of the current proposed action, when combined with the effects of other past, present, and reasonably foreseeable future projects, are cumulatively considerable or significant.

From August 2005 continuing through June 2018, seven FEMA PA-program-funded emergency protective measure and repair projects have occurred, are occurring, or are reasonably foreseen to occur to buildings, recreational and educational facilities, public utilities, and watercourses within a one-mile radius of the proposed project (*Figure 7*). FEMA-funded undertakings are divided into six (6) categories, four (4) of which are represented within the subject one-mile radius: Category B – emergency protective measures, Category E – public buildings, Category F – public utilities, and Category G – recreational or other. All FEMA-funded actions are subjected to various levels of environmental review as a requirement for the receipt of federal funding. An applicant's failure to comply with any required environmental permitting or other condition is a serious violation which can result in the loss of federal assistance, including funding.

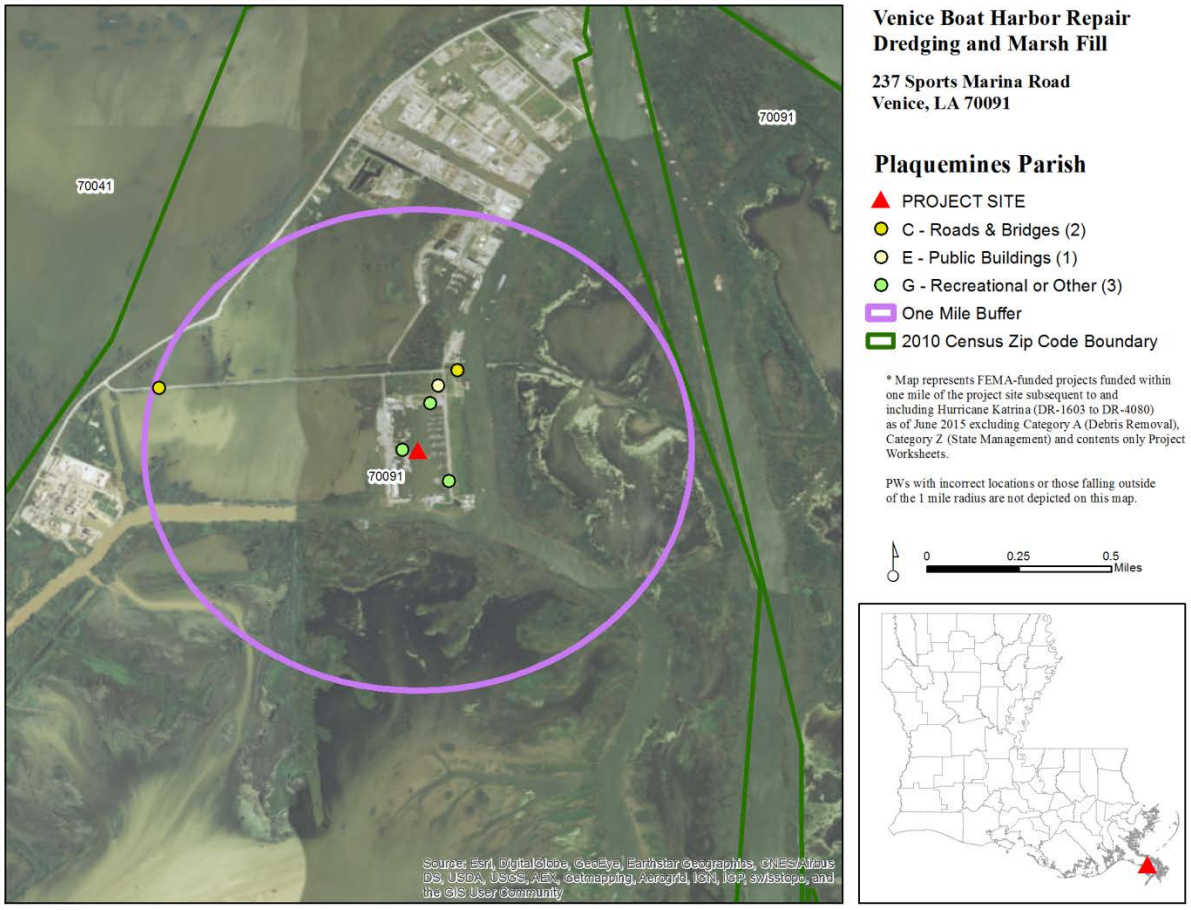

Figure 7 – FEMA-funded projects occurring within a one-mile radius around the proposed project site

Table 2 below lists and briefly describes known present, past, and reasonably foreseeable infrastructure and recovery improvement projects, including activities identified by FEMA but not FEMA-funded, within a one-mile radius of the proposed project, for which environmental assessments or environmental impact statements were performed, and/or that may have the potential for cumulative impacts when combined with the effects of the present proposed action. The table also identifies the potential for cumulative impacts when combined with the effects of the proposed action and the rationale for that assessment.

Table 2 – Projects that May Have the Potential to Contribute to Cumulative Impacts

Project Name / Status	Agency	Location	Description	Cumulative Impact	Rationale
Mississippi River Maintenance Dredging	USACE	Mississipi River Navigation Areas	Routine maintenance and special dredging projects	Negligible	Restoration and improvements to existing infrastructure; no impact on proposed action
FEMA-funded Public Assistance Projects	FEMA	Venice Boat Harbor	Repair and/or reconstruction of harbor infrastructure with improvements	Negligible	Restoration and improvements to existing infrastructure; no impact on proposed action
Nearby Non-FEMA Private Industry Repair and Improvement Projects	Misc. Private	Venice vicinity	Repair and/or reconstruction of local industry and infrastructe by private industry	Negligible	Restoration and/or improvements to existing infrastructure or within previously disturbed areas; no impact on proposed action
Plaquemines Parish Venice Boat Harbor Improvements	Plaq. Parish	Boat Harbor Drive	Dredging new channel with camps and structures	Negligible	New construction and increased harbor capacity and infrastructure; no impact on proposed action

As identified in Table 2, the cumulative effect of these present, past, and reasonably foreseeable future undertakings is not anticipated to result in a significant impact to any resource.

6 CONDITIONS AND MITIGATION MEASURES

Based upon the studies, reviews, and consultations undertaken in this DEA, several conditions must be met and mitigation measures taken by CNO prior to and during project implementation:

- The Applicant must follow all applicable local, state, and federal laws, regulations, and requirements and obtain and comply with all required permits and approvals prior to initiating work.
- If human bone or unmarked grave(s) are present within the project area, compliance with the Louisiana Unmarked Human Burial Sites Preservations Act (R.S. 8:671 et seq.) is required. The Applicant shall notify the law enforcement agency of the jurisdiction where the remains are located within twenty-four (24) hours of the discovery. The Applicant shall also notify FEMA and the Louisiana Division of Archaeology at 225-342-8170 within seventy-two (72) hours of the discovery.
- If during the course of work, archaeological artifacts (prehistoric or historic) are discovered, the applicant shall stop work in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the finds. The applicant shall inform their Public Assistance (PA) contacts at FEMA, who will in turn contact FEMA Historic Preservation (HP) staff. The applicant will not proceed with work until FEMA HP completes consultation with the SHPO, and others as appropriate.
- Project construction would involve the use of potentially hazardous materials (e.g., petroleum products, including but not limited to gasoline, diesel, brake and hydraulic fluid, cement, caustics, acids, solvents, paint, electronic components, pesticides, herbicides, fertilizers, and/or treated timber) and may result in the generation of small volumes of hazardous wastes. Appropriate measures to prevent, minimize, and control spills of hazardous materials must be taken and generated hazardous or non-hazardous wastes are required to be disposed in accordance with applicable federal, state, and local regulations. LDNR requires that a complete CUP Application package (Joint Application Form, location maps, project illustration plats with plan and cross section views, etc.) along with the appropriate application fee, be submitted to their office prior to construction. The Applicant is responsible for coordinating with and obtaining any required CUPs or other authorizations from the LDNR OCM's Permits and Mitigation Division prior to initiating work. The Applicant must comply with all conditions of the required permits. All documentation pertaining to these activities and Applicant compliance with any conditions should be forwarded to the state and FEMA for inclusion in the permanent project files.
- Applicant must comply with all local, state, and federal requirements related to sediment control, disposal of solid waste, control and containment of spills, and discharge of surface runoff and/or stormwater from the site.
- If the project results in a discharge to waters of the State, an LPDES permit may be required in accordance with the Clean Water Act and the Louisiana Clean Water Code. If the project results in a discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify its LPDES permit before accepting the additional wastewater. In order to minimize indirect impacts (erosion, sedimentation, dust, and other construction-related disturbances) to nearby waters of the U.S. and surrounding drainage areas, the contractor must ensure compliance with all local, state, and federal requirements related to sediment control, disposal of solid waste, control and containment of spills, and discharge of surface runoff and stormwater from the site. All documentation pertaining to these activities and Applicant compliance with any conditions should be forwarded to LA GOHSEP and FEMA for inclusion in the permanent project files.
- Per 44 C.F.R. § 9.11(d)(6), no project should be built to a floodplain management standard that is less protective than what the community has adopted in local ordinances through their participation in the NFIP. Per 44 C.F.R. § 9.11(d)(9), for the replacement of building contents, materials, and equipment, where possible disaster-proofing of the building and/or elimination of such future losses should occur

by relocation of those building contents, materials, and equipment outside or above the base floodplain. The Applicant is required to coordinate with the local floodplain administrator regarding floodplain permit(s) prior to the start of any activities. All coordination pertaining to these activities and Applicant compliance with any conditions must be documented and copies forwarded to the LA GOHSEP and FEMA for inclusion in the permanent project files.

- If any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents are encountered during the project, notification to LDEQ's Single-Point-of-Contact (SPOC) at (225) 219-3640 is required. Additionally, precautions should be taken to protect workers from these hazardous constituents.
- All activities involving the remediation of known hazardous substances present in on-site soils must be conducted in accordance with LDEQ requirements and as specified in the approved Corrective Action Plan. Activities involving the remediation of as yet undiscovered hazardous substances in on-site soil and groundwater must be conducted in accordance with relevant LDEQ requirements. Remediation activities for such undiscovered contaminants may not begin until LDEQ approval has been received by the Applicant.
- All waste is to be transported by an entity maintaining a current "waste hauler permit" specifically for the waste being transported, as required by LaDOTD and other regulations.
- Unusable equipment, debris, and material shall be disposed of in an approved manner and location. The Applicant shall handle, manage, and dispose of petroleum products, hazardous materials, and/or toxic waste in accordance with all local, state, and federal agency requirements. All coordination pertaining to these activities should be documented and copies forwarded to the state and FEMA as part of the permanent project files.
- Contractor and/or Subcontractors must properly handle, package, transport and dispose of hazardous materials and/or waste in accordance with all local, state, and federal regulations, laws, and ordinances, including all OSHA worker exposure regulations covered within 29 C.F.R. § 1910 and 1926.
- During in-water work in areas that potentially support manatees all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel should be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable.
- All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). We recommend the following to minimize potential impacts to manatees in areas of their potential presence:
- All work, equipment, and vessel operation should cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).
- If a manatee(s) is sighted in or near the project area, all vessels associated with the project should operate at "no wake/idle" speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels should follow routes of deep water whenever possible.

- If used, siltation or turbidity barriers should be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.
- Temporary signs concerning manatees should be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities should display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8½ " X 11" reading language similar to the following: "CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT". A second temporary sign measuring 8½ " X 11" should be posted at a location prominently visible to all personnel engaged in water-related activities and should read language similar to the following: "CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION".
- Collisions with, injury to, or sightings of manatees should be immediately reported to the Service's Louisiana Ecological Services Office (337/291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225/765-2821). Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.
- If a sea turtle is seen within 100 yards of the active daily dredging/ disposal operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea. Operation of any mechanical construction equipment shall cease immediately if a sea turtle is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.

7 PUBLIC INVOLVEMENT

The Draft Environmental Assessment will be made available for review at the Plaquemines Parish Public Library, 8442 Highway 23, Belle Chasse, Louisiana 70037 and the Plaquemines Parish Library of Port Sulphur, 139 Delta St. Port Sulphur, LA 70083 (hours of operation are 8:30 a.m. to 5:00 p.m., Monday-Friday; 8:30 a.m. to 12:30 p.m. Saturday). The documents also can be downloaded from FEMA's website at http://www.fema.gov/media-library/search. The public notice is being published in the *Plaquemines Gazette*, the journal of record for Plaquemines Parish, on Tuesday, May 15, 2018 and Tuesday, May 22, 2018. FEMA has invited the public to comment on the proposed action during a thirty (30) day comment period, which will begin on Tuesday, May 22, 2018 and conclude on Wednesday, June 20, 2018. Written comments may be mailed to: DEPARTMENT OF HOMELAND SECURITY-FEMA EHP-DPW, 1500 MAIN STREET, BATON ROUGE, LOUISIANA, 70802. Comments also may be e-mailed to FEMA-NOMA@fema.dhs.gov or faxed to (225) 346-5848. Verbal comments will be accepted or recorded at (225) 267-2962. If no substantive comments are received, the draft EA and associated FONSI will become final.

8 AGENCY COORDINATION

Louisiana Department of Environmental Quality

Louisiana Department of Natural Resources

Louisiana Department of Wildlife and Fisheries

U.S. Army Corps of Engineers

U.S. Environmental Protection Agency

U.S. Fish and Wildlife Service

U.S. National Marine Fisheries Service

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